

**SWP 44/90 LIFE-CYCLE COSTING IN THE FINANCIAL
EVALUATION AND CONTROL OF PRODUCTS & BRANDS**

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LIFE-CYCLE COSTING IN THE FINANCIAL EVALUATION AND CONTROL OF PRODUCTS AND BRANDS.

by Keith Ward, Sri Srikanthan & Richard Neal

"Products have life-cycles, brands do not."

This well known marketing adage is based upon the principle of the separability of brands from their underlying products, and yet it appears that in many companies managers do not properly understand the difference between the product and the brand. Failure to distinguish between these different types of marketing assets can have serious implications for decision makers as has been revealed in recent research projects undertaken by the Marketing Accounting Research Centre at Cranfield School of Management. Investments in product range extensions have been financially approved where the pay-back periods exceeded the new products' life-cycles, on the mistaken justifications of using the much longer brand economic lives. Also new products have been introduced which could, and should, have been viewed as potentially very damaging to the overall perception of the existing brands by the ultimate customer and yet these potentially adverse impacts on the total brand values were ignored in the financial evaluations. The new products were evaluated as if they were completely independent even though they were specifically launched under the umbrellas of existing successful brands. (At least, in these cases, financial evaluations of marketing investments were attempted, while in many companies the marketing area still does not appear subjected to the same financial disciplines as other major items of expenditure.) A brand, with proper support, may flourish for many years and may outlast many generations of underlying products without itself needing to change its image or value proposition, etc. Nevertheless, any brand has limitations and we will argue in this article that brands also follow a life-cycle, albeit possibly a long life-cycle.

Over the brand's life, the product may change many times and the branding may be extended to encompass other related products. For example, Colman's English Mustard has undergone many

changes to its ingredients, packaging and presentation, and there have been many successful line extensions. The basic brand image and value proposition appear, however, to have been retained for over 100 years. The brand's original limitation of association with red meat consumption, which is now declining, requires a major repositioning effort if the value of the brand is not to decline in line with this externally driven factor. To what extent it is financially worth trying to reposition an existing brand or to transfer the brand association to other products is a critical factor in evaluating marketing investment decisions. The remaining economic life of the existing product should not be the sole time criteria in any decision as this may lead to excluding the potentially substantial transfer value of the brand at the end of this product's useful life, but neither should this brand value be used as an excuse to support a dead or dying product as this is likely to result in the decline or death of the brand as well.

This evaluation can be further complicated by the use of umbrella brands and sub-brands and different branding strategies within the same industry. The motor car industry illustrates this complexity quite well. Ford, among others, uses its corporate name as the umbrella brand but then positions its products under sub-brands (i.e. models) such as Escort, Fiesta, Sierra etc. and the individual products within each sub-brand are denoted by common titles such as Ghia, GL and XR etc. Thus whichever particular car is being marketed the overall Ford image is automatically imposed for good or bad, but the consumer will also develop feelings about the particular sub-brand name and this loyalty or dislike can be quite strong. The individual product life-cycle is quite short with almost completely new models being launched every 6-10 years, depending on the category involved, and at each new model launch Ford can choose whether to carry over the old brand identity to the new car. Thus in some cases it may be better to change the name so as to change the expectation of the consumer (as was done with the Sierra replacement of the Cortina) while if the image is basically the same the model name may also be carried over (as was done with the Escort and the Fiesta.)

Part of the logic of this sub-brand identity may be to try to appeal to different segments of the market but the ability to do this is limited by the overall brand association. Interestingly, other car

makers e.g. BMW, Mercedes Benz and Porsche, use the company name as the only brand with the different model groupings being highlighted by a number and further sub-classifications within this number for specific products. For these companies the introduction of a new product normally means the straight substitution of new for old with the same brand identity, eg the new BMW 7 series.

These different branding strategies can alter the way in which the marketing investment is both evaluated and separated between brand (at different levels) and product. It is particularly important in an industry like the motor car industry where vast funds are invested in each new product and yet the individual product life-cycles are becoming shorter and shorter through competitive pressure; thus the ability to transfer sizeable brand investments from one product to another, and consequently prolong the brand life-cycle, becomes vital.

It is, therefore, crucial for a business to understand both the life-cycles of its products and brands and what drives the values of the brands e.g. the limitations on its transferability and positioning.

Financial Control mechanisms at different stages in the product life-cycle

Understanding life-cycles is essential for evaluating an investment in any long term asset. Managers have to estimate the future cash flows over the life of the asset and apply a suitably risk-adjusted discount rate to these cash flows (i.e. carry out a discounted cash flow analysis). Marketing investments do not differ from this basic evaluation process and this includes brand investments, even though it is often argued that brands only have two stages in their lives: development/growth and maintenance/maturity.

It is well known that the cash flows generated by any normal business investment will fluctuate over the life of that investment and that accounting profits will also fluctuate over this period, although not necessarily directly in line with the changes in cash flows. Thus if the overall business is regarded as a collection of projects (brands and products) or strategic business units (SBUs) which

are likely to be at different stages of development, it is easy to see why Johnson and Kaplan (1987) say that it is fairly meaningless, from a decision-maker's perspective, to calculate net cash flows for the whole firm for any one period. Indeed a fundamental premise of the Boston Consulting Group's portfolio theory was the balancing out of the different cash flows in each of the different stages of the product life-cycle as is shown by Ward (1989). Thus a company with a diversified product range may have some products in the development stage with consequently negative cash flows and others in the mature stage producing strong positive cash flows. In order to exercise control, each product should be considered in the context of its position in its product life-cycle. It may be appropriate to compare directly the performance of two products which are both in the maturity stage, but not to do the same comparison between a new developing product and an established mature product.

The economic justification for any long term investment decision must be carried out over the full life of the investment and if the financial returns fluctuate substantially over this long period, it is illogical to try to judge performance over much shorter periods by using only one standardised measure. This is effectively what is done by the 93% of companies which use Return on Investment (ROI) as their prime performance parameter (Reece and Cool 1978) whatever the stage of development of any particular SBU, or other divisional sub-grouping. Such traditional accounting measures place excessive emphasis on short term performance which may be achieved at the expense of the longer term development of the product and, even more frequently and importantly, the brand. This is at least partly due to the accounting treatment of marketing expenditure, whereby it is expensed in the period when it is incurred. Thus by cutting discretionary expenditure on brand maintenance or brand development, the short term profit levels of the project may be increased even though the longer term returns and indeed the later years of the life of the project are threatened. In the development stages of a project it is more sensible to base decisions on the impact on the cash flows over the ensuing years, rather than concentrating on the changes in short term profit measures.

Seed (1983) identified three major financial factors which can be differently weighted depending upon the stage of the product's life-cycle. Seed used the traditional four stages of the life-cycle (embryonic, growth, maturity and ageing) to which were applied the factors of sales revenues, income accounting (i.e. profits) and net cash flow. Each factor varies across the stages of the life-cycle with revenues increasing rapidly from embryonic through growth and peaking as the product moves from growth to maturity. The product will normally show an accounting loss in its embryonic stage, but should move into substantial profit during maturity. Net cash flows will be significantly negative at first before becoming sizeably positive as the product matures before declining as ageing sets in.

This analysis and control process has also been partially addressed by Day (1986) and Hirsch (1988) but the ultimate objective should be to identify how best to measure and control the specific financial performance in each of the four stages. In the embryonic stage the company has to invest in the technological development of the product but, as Hirsch argues, also in marketing, such as market research, to see whether the product is marketable when, and if, it is successfully developed. Marketing plays a central role as the appropriate target markets are identified and developed, and marketing expenditure should, therefore, be regarded as a committed cost at this stage of development, although in later stages it becomes more discretionary. It is clear that the use of ROI as a control measure is totally inappropriate at this embryonic stage of the product life-cycle. Indeed it is our contention that no soundly based financial control measure can be found at the very early stage of the product's life, in particular, and that the common use of expense centres to control research and development driven areas of the business is falsely based. The business objective is not to spend up to the budgeted or allocated expenditure limits but rather to achieve specific, measurable milestones, which may not be meaningfully quantifiable financially. However, the original budget justification should have included all the prospective financial benefits of a successful research programme and subsequent product launch. Consequently, the embryonic stage can be most sensibly controlled by reference to the achievement or not of those identified milestones, and by regular referral back to the original project justification as the project develops.

As the product is successfully launched and the market begins to grow, the financial measures become more clearly defined. However, marketing is again the key criteria; both in terms of market growth and growth in the product's share of that market. In the growth stage a common strategy is that of product differentiation to gain market share and in this case the business should invest both to maximise this share and to develop the growth of the market to its full potential. Thus the marketing expenditure in this growth stage is of a long term nature and any concentration on short term issues such as improving ROI will damage these longer term prospects. Several criteria for performance measures have been suggested for this growth stage but our view is that a combination of physical and financial measures is optimal. The growth of the market and the product should be monitored by reference to the rate of market growth and relative market share, so that the first signs of maturity can be identified and the appropriate changes in marketing strategy can be implemented. However, the financial implications of these potentially long term marketing investments, and any consequent investments in other more tangible assets such as plant or extra working capital, should also be evaluated using the appropriate long term decision criteria, i.e. discounted cash flow techniques.

As the rate of market growth slows and the market can be seen to be moving into the mature stage of the cycle, the emphasis on control should shift to enhancing profits and cash flows in the shorter term as the attractiveness of longer term investment reduces. This may be achieved by a strategy of differentiation, although it may be more difficult to maintain product differentiation in a mature market, or by a greater emphasis on cost control and hence improving profit margins (often in an environment of reducing prices). Appropriate financial control measures can now be the normally observed ones of profit margins, operating cash flows and ROI. Once maturity is well established and genuine product differentiation is almost impossible, the importance of branding as a means of maintaining a differentiation strategy is seen (Levitt 1983; Srikanthan, Ward and Neal 1989). It is often too late to try to develop a brand at this stage of market maturity but it is here that the business realises the financial return on any earlier investment in branding, as will be discussed later in the article.

Eventually the product will move into the saturation, declining or ageing stage and now there should be no question of justifying any marketing activity on a long term investment basis. Indeed there is no longer any necessary justification for maintaining the existing investment base in either tangible assets (i.e. plant and machinery) or intangible assets (i.e. products and brands). Therefore, reinvestment in assets as they are used up should be rigorously financially evaluated and consequently the best financial performance measure is in our view short term free cash flow (rather than profits which can be distorted by accounting timing conventions on items such as depreciation etc.) These control parameters for the four stages are diagrammatically summarised in Figure 1.

A key question when a product reaches the ageing stage is when should it be closed down and, taken in isolation, for the product this should be done as soon as the product ceases to generate cash (i.e. it is no longer cash positive). However, if a brand is involved with the product and there is substantial potential value in the brand, it may be beneficial to transfer the brand, to a new or replacement product. Thus the existing product may be killed at an earlier date or it may be decided to continue for longer with the existing product so as to facilitate the launch of the new product under the same brand umbrella. Thus branding can significantly impact the product life-cycle as is discussed below.

Implications for brand strategies at different stages of the life-cycle.

So far the product life-cycle has been considered in terms of the product but not in association with the accompanying or over-riding brand. If the adage at the beginning of the article is to hold true, the transferability of the brand to new or replacement products is critical.

Before discussing this issue in detail it is important to separate marketing expenditure into two distinct categories: development activities and maintenance activities. Marketing development expenditure can be designed both to develop the market and to increase market share and its financial justification is therefore based on the incremental financial returns over those being achieved without such expenditure. Maintenance expenditure is incurred to maintain the status

quo in terms of market share and must be considered in the context of the current stage of both product and market development. In terms of more tangible assets maintenance expenditure can be likened to maintaining the asset at its present level of value to the business, whereas marketing development activity represents a capital improvement to the asset value. It is important therefore to register that implicitly or explicitly those major companies, such as Grand Metropolitan and Ranks Hovis McDougall, who have capitalised brand assets on their published balance sheets, but who are not providing depreciation on these intangible assets, have made two major assumptions. First that they possess an infinite life, and second that they will spend sufficient funds on maintenance marketing activity each year to sustain the base value of their capitalised brands so that no depreciation is required. Their annual maintenance marketing expenditure is, of course, expensed against their published profits in each year, as indeed was the original development expenditure for the brands which are now capitalised.

A graphical way of distinguishing development and maintenance expenditure is illustrated as Figure 2 in terms of brand awareness, where having invested large sums to raise awareness to a target level, regular expenditure on maintenance activities is required to offset the decay effect over time. The proponents of the argument that brands do not have life-cycles must believe that adequate maintenance expenditure can always be financially justified in order to preserve the long term economic value of the brand. Some of these proponents may argue that it is only short sighted accountants who have refused to sanction these required levels of maintenance activity and who consequently are responsible for the demise of once proud and successful brands. We beg to differ and believe that is possible to project a rational analysis of a brand life-cycle as is illustrated in Figure 3.

We are concerned now only with the cash flows attributable to the brand and compare these to the relative market share achieved by the brand in terms of net cash flow. As with the launch of a new product, a new brand requires substantial investment when launched and the cash flow will usually be significantly negative. The financial evaluation of the investment will be done by using the cash flows over the long term expected life of the brand, but a high risk-adjusted rate of discount should

be applied to these cash flows in view of the high failure rate of new brand launches. Thus in Figure 3 the brand is positioned in Quadrant A.

If the brand is successful and gains market share it will move towards Quadrant B, where the higher market share will generate higher sales revenues and consequently increased cash inflows. The brand still requires high marketing investment to continue its rate of growth but the cash flows are now more closely balanced and the brand should become self-balancing in cash terms: it has not yet started to repay the initial large investment made during its growth period. The end of this stage is crucial because it marks the transition from development to maintenance for the brand, and it is clearly important that the business identifies this point as it requires a fundamental change in the marketing strategy for the brand. No business can afford to develop a brand forever as this would mean that it is continually absorbing cash from other parts of the business, and there is no valid financial justification for such an infinitely negative cash flow type of expenditure. Thus all brands are developed on the assumption of becoming cumulatively cash positive over some finite period and yet some marketing managers never appear willing to admit that the transition point from development to maintenance has been reached.

Equally some short term oriented financial managers wish to generate the maximum return from a brand far too soon and thus miss out on the potential longer term benefits which have been established by the development of the brand. This is why the next stage in the brand's marketing strategy is critical; the brand could move from Quadrant B to either C or D in Figure 3 depending on the level of maintenance support given to the brand. As the brand starts to make positive cash flows it may be tempting to maximise these flows in the short-term by reducing marketing support and relying on the brand's strengths such as awareness and loyalty, created by the high expenditure of the development stage. Thus discretionary marketing activities are cut and, in the short term, no impact may be seen in sales revenues. If so, there will be a consequent increase in net cash flows and accounting profits in the current accounting period. However, unless there is an increased level of brand investment in subsequent periods to restore the previous position of the brand,

future potential revenues and net cash flows may soon decline or dry up completely through an irretrievable loss of market share.

A longer term maintenance strategy is to reduce the level of marketing expenditure more gradually to a stable maintenance level where the brand generates positive net cash flows but does not lose market share, or indeed still makes small gains in market share but at a slower rate than during the rapid development stage. This requires a planned move into Quadrant C where high market share is maintained for a relatively low investment, when compared to the volume of sales generated. Logically, therefore, companies that wish to continue to compete effectively with their brands in the long term should treat the brand as an integral part of the business and make brand investment, or disinvestment, decisions as a conscious part of their long term strategy. Unfortunately an over concentration on short term performance indicators such as ROI or even quarterly or half-yearly earnings per share (which are perceived as all important for publicly quoted companies) can be inconsistent with such a long term strategic view of brand investments.

This continued support of the brand at the appropriate level in the maintenance stage is essential and, if reduced too far, the brand may need to be relaunched. It would then go back through a period of substantial negative cash flows in order to re-establish itself as a powerful brand. It can be argued that Lucozade and Ribena are two such relaunched brands where Beechams has reinvested in the brand by heavy brand development marketing and also by product development. It is this linkage of brand and product life-cycle which is particularly interesting as it is possible that branding and the brand life-cycle can, as mentioned earlier, alter our approach to the product life-cycle.

In the case of Lucozade and Ribena, new product developments were included as part of the relaunched brand and so a new product life-cycle was started at the same time as a new brand cycle. If a successful brand is used to launch a new product (via either umbrella branding or replacement product strategy), it may be possible to shorten the embryonic stage of the new product and also to reduce the ageing stage of the product being replaced. Thus when present

technology becomes obsolete, the brand can be used to achieve a smooth transformation from old product to new without major disruptions to the cash generated by the products. This can reduce the pressure to maximise/harvest the cash from the maturity stage of each generation of products to find the launch of new products, as the necessary level of total investment is reduced and the negative cash flow period is more short-lived. A strong transferable brand can therefore represent a major sustainable competitive advantage and also creates a large barrier to entry for potential competitors.

Also a strong brand can enable a company to stand aloof from the fierce price competition that tends to result when maturing products face a potential over-capacity position in their markets. Companies which have previously invested heavily in marketing may be able to charge a premium price based on the perceived added value of the brand. Indeed it has been argued that if this is not possible the brand has no real economic value.

Relevance of types of brand; e.g. functional or representational

If a brand image is strong enough, the consumers' perception of the brand (and consequently their loyalty to the brand) may be unaltered even though the product may have changed dramatically in terms of design, packaging, technology etc. This can be particularly true of large value, infrequently purchased items such as cars, consumer durables etc. where some consumers will replace their worn-out product with the same brand's current offering. While powerful this may require a dramatic change in marketing strategy if the company wishes to move into new market segments. For example, IBM used the brand image and customer loyalty to great success in their commercial computer business, but this loyalty was not immediately transferable to selling personal computers to individuals. These individual customers had built up loyalties to suppliers of other complex electronic products, such as Amstrad, and these companies were able to take very high initial market shares even though they were unknown as computer manufacturers.

Clearly the product and the brand are interdependent, but if they cannot be separated they must logically follow the same life-cycle and therefore it is important that they can be separated. The launch of New Coke is a classic (no pun intended!) example of the interaction. When Coca-Cola launched its new formula product in new packaging, it maintained the stated brand image but to the consumer the end result was unacceptable. Fortunately for the company the previous brand loyalty was so strong that consumers contacted the company to express their concern and disillusionment rather than simply buying the Pepsi-Cola alternative. The original formula was reintroduced 70 days later. Interestingly, the launch of Diet Coke, with obviously a different formula and different packaging, was successful and created no brand image problems presumably because the basic image is consistent but the product is aimed at a different but related market segment.

The degree to which brands can be extended into new product areas is of critical importance, as if the new offering has adverse image implications etc. the result may be to damage the total brand. This would have concerned Mercedes-Benz when they were considering the launch of the 190 series because, although positioned at the luxury end of its segment, entering a smaller sized model range could have adversely affected the perception of the larger, more expensive models. Some companies will maintain different brands for such different market segments even in the same market to avoid this danger but this, of course, increases the cost of brand development and maintenance. It also loses the potential of cross-association sales when the branding retains the customer even as their needs develop; thus, in the car industry, the Ford umbrella brand and model range is supposed to supply the consumers' needs as they buy their first car through young families to successful executive status and on to old aged pensioner.

More interesting still is the attempt to extend dramatically the product ranges encompassed by one brand and this can be very clearly illustrated in the retailing industry. Marks and Spencer is not only extending the product range sold in its stores but is also using its brand image to launch heavily into financial services products with investment portfolio management and personal loans. Sainsburys is also extending its brand franchise in new product areas with the launch of Homebase

and the acquisition of the BhS share in Savacentre. The justification is that it requires a massive investment over a long time to develop a brand whereas many of these products have, by comparison, very short life cycles, and it is logical to try to maximise the benefit from these expensively created assets. Cool and Schendel (1988) argue that it is this stock of 'accumulated' assets such as brand loyalty which contribute the real source of competitive advantage. However the danger is one of over-extending the brand image or of associating the brand with an inappropriate product (such as Marks and Spencer launching an investment product which failed badly) and consequently seriously damaging the brand asset.

The area of potential brand transferability and hence extension of the brand life-cycle may be highlighted by considering the particular type of brand involved. De Chernatony and McWilliam (1989) have distinguished functional brands from representational brands. A functional brand is one where the branding says something about the physical attributes and performance of the product and enhances the expectation on the part of the customer. The value of the brand is normally represented by excess value added (i.e. premium pricing) over the cost of the brand's packaging and marketing over that of an unbranded version of the same product. Such a set of brand attributes can be transferred/extended to other products where similar factors are important and will be identified by the same customers. Thus if Black and Decker have a brand reputation for selling good reliable electric domestic do-it-yourself tools for the home handyman it would be logical to extend this brand into electric gardening products (such as lawnmowers, hedge-trimmers etc.) and into non-electrical tools where reliability etc. are important (such as portable work-benches etc.)

A representational brand says more about the self-image of the consumer than about the particular functionality of the products sold under the brand logo and thus a wider range of apparently less closely associated products can be sold to the brand's loyal customers. It is also likely that other customers will buy some items from the range because they want to express similar ideas of their self-image (e.g. selling Porsche sunglasses and other personal accessories), but the brand has to be

careful, once again, not to damage its main position association with inappropriate product offerings.

Companies should also be careful that their brand does not become too closely identified with any one product so that the name becomes synonymous. Customers may refer to the products by the brand name but not buy the brand as they no longer see the connection. One can argue that this has happened to Hoover where people refer to their vacuum cleaner as a Hoover even if it is made by another company e.g. Electrolux. Not only can this generic name association reduce the brand value as competitors are able to gain market share but it may also restrict the potential for brand transferability to other logical product areas. Would consumers buy a washing machine made by a company called 'Vacuum Cleaner'?

Conclusion

It is only by continuing to transfer the brand to new product areas or to replacement products that the brand life-cycle can be extended. Each such transfer should be seen as a risk to the existing brand value which has been built up and the decision evaluated accordingly. It should also not be taken for granted that it is always beneficial to continue to invest in a brand and indeed all brands should eventually move from the development stage to the maintenance stage, where they should become cash positive and start to repay the previous investment made in their development. The brand life-cycle must be considered in conjunction with the product life-cycle as they are inter-related but should be capable of separate evaluation if the brand, of itself, has value to the business - representational type brands are likely to be more independent of their product offerings.

Neither for brands nor products is a single simple financial control system appropriate. At most stages in their lives ROI is very inappropriate as a performance measure, as it concentrates too heavily on short term results, which can be at the expenses of longer term potential benefits. Thus companies need to develop systems of financial performance evaluation which are linked to the strategic objectives appropriate to the stage of development of the product and the brand. This can

only be done if these marketing assets are considered to be as important as any of the other more tangible assets of the business.

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FIGURE 1

PRODUCT LIFE CYCLE AND FINANCIAL
CONTROL PARAMETERS

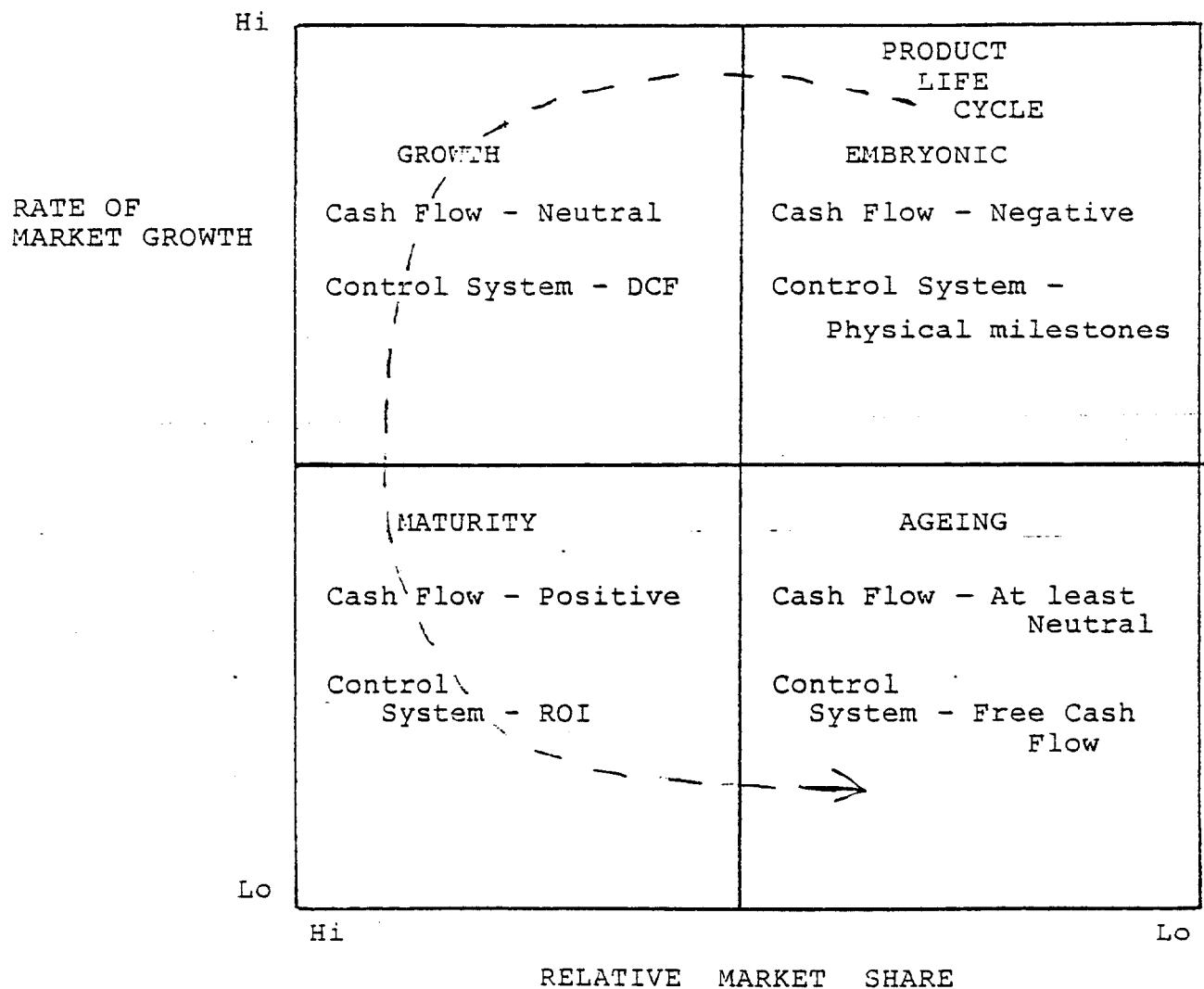
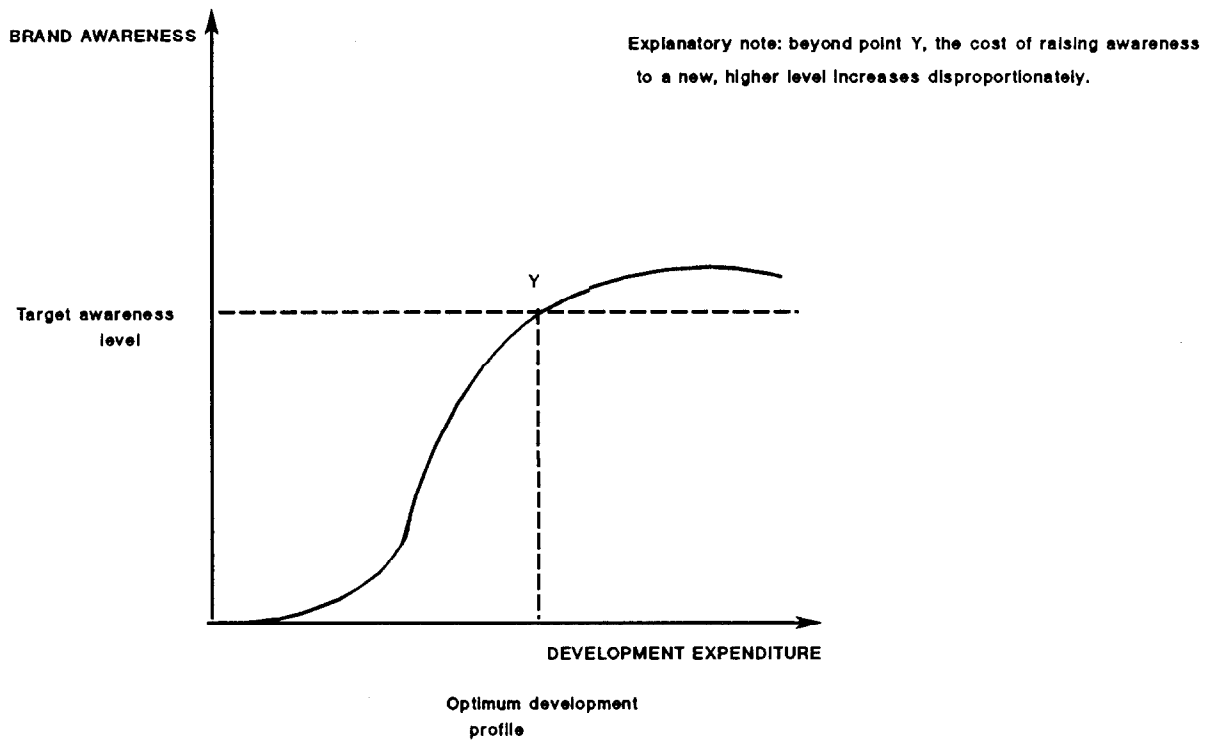


FIGURE 2: Brand Development and Maintenance Expenditure Profiles

(a) Development expenditure profile



(b) Maintenance expenditure profile

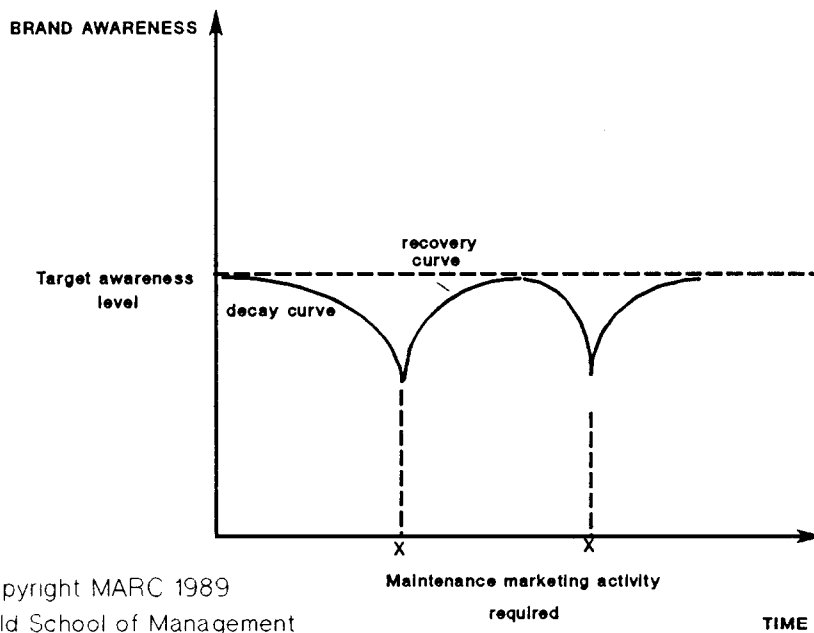


FIGURE 3

MARKET SHARE/BRAND INVESTMENT MATRIX
SHOWING BRAND LIFE-CYCLE

