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THE FAMILY PORTFOLIO MATRIX:

EXPANDING THE BCG CONCEPT

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ABSTRACT

The use of portfolio matrices has been of great popularity since their first outing in the 1960's. However, recent criticisms have been leveled at their inaccuracy and inability to include flexibility. As such, this working paper proposes the use of the Family Portfolio Matrix, designed to consider many of the criticisms aimed at portfolio matrices, yet still being flexible in its use and application.

The model is one which has been developed, and a methodology for its' testing and further development is included within the paper. It is not immune from criticism, and will still be open to some of the inabilities associated with portfolio analysis. However, in creating a model which is designed to be easily accessible to all, the Family Portfolio Matrix aims to draw in new visitors to strategic analysis and provide an insight into the benefits such analysis provides.

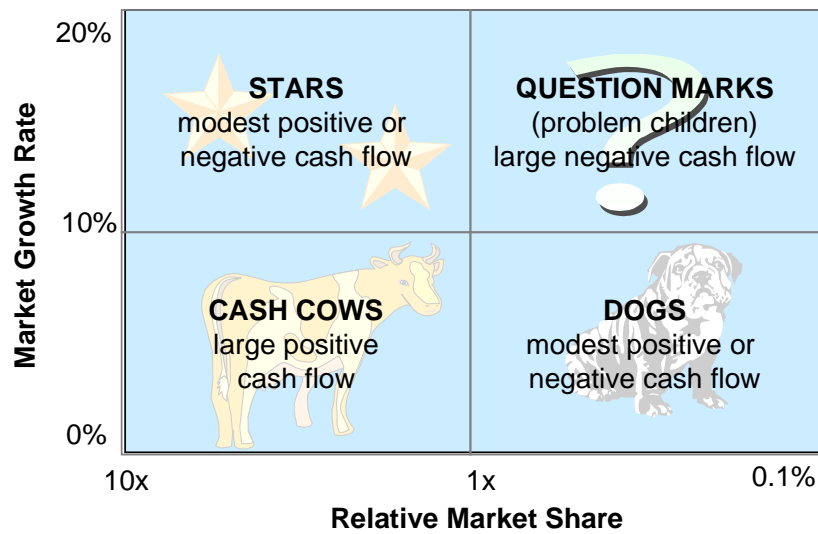
PORTFOLIO MATRICES

The use of portfolio matrices has become commonplace within both strategic planning and marketing circles over recent decades. Initially designed for corporate portfolio analysis (Drucker, 1964), they have found homes in every type of business from voluntary sector to environmental issues (Ilinitch & Schaltegger, 1995) and major corporate analysis (Wilson & Gilligan, 1997).

Critics limit the value of portfolio analysis - citing the simplicity of the approach, when often more complex issues exist (Wind, Mahajan & Swire, 1983; Capon & Hulbert, 2001).

However, this is to detract from the value derived from the exercise; both in terms of the activity itself and the overall results. Simply thinking about how your firm does business, especially for the smaller organisation, can yield benefits far in excess of other strategic analyses (Day, 1981; Doyle, 2001). Take the time to undertake a strategic analysis using portfolios – and many different potential strategies come to light. The fruit picked is worth the time spent planting, fertilising and watering your portfolio of seedlings. Identifying the potential strategic direction is the start point of selection, implementation and control of the organisation's and Strategic Business Unit's (SBU) overall strategic direction.

A range of portfolio matrices have been developed since Peter Drucker (1964) first developed the concept of a product portfolio. In developing the growth-share matrix, the Boston Consulting Group (BCG) created arguably the most popular management technique ever (Day, 1981), with other models such as the Shell Directional Policy Matrix being developed later (Shell, 1975). The principle behind the technique is to provide a visual image of the portfolio comprising the SBU. In addition, it provides reasoning for cash flow and good overall management. A simple method to use, a BCG matrix can be quickly created – providing rapid analysis. The essential components of the BCG growth/share matrix are illustrated below in Figure 1:



Two aspects are shown: The market growth rate is shown on the vertical axis – showing the annual growth rate in percentage terms. The horizontal axis represents the relative market share of the product or SBU compared to its largest competitor. The plotted position then represents a measure of the product or SBUs relative strength within the sector. Visually this can be shown by a size-related circle which denotes the turnover of the product or SBU in comparison to others being plotted.

Overall, a company is attempting to create a balanced portfolio, providing funding for Question Marks and Rising Stars through the positive cash inflow of Cash Cows and Dogs (Porter, 1985). Where the portfolio becomes unbalanced, with too few in each segment, then concerns are raised for either the short or long-term survival of the firm (Wilson & Gilligan, 1997). For example, the dot.com boom and bust developed around a series of Question Marks and Rising Stars, each of which rapidly ate cash. The demise of Webvan in 2001 after gobbling \$1 billion in cash demonstrated the strengths behind the ‘clicks-and-mortar’

approach. Alternatively, the imbalance created through too many Cash Cows with little investment creates an organisation which is cash-rich but has little forward planning.

Drawbacks of the BCG Matrix

With the simplicity of its creation comes the inherent drawback of the BCG Matrix; the rigidity of the framework means that it is unable to be adapted to differing situations, producing simple strategic directions for an ever-more complicated world. Other criticisms have been levied at the matrix, including:

- There is no consideration of risk (Wind & Mahajan, 1981). Therefore the firm does not know the level of risk involved in each strategic option.
- The model only operates in growth markets – it is not able to consider negative rates of growth (Lancaster & Massingham, 2001). With many markets being in decline, the model cannot take this into account.
- Where ‘new’ markets are created and have a low initial rate of growth, products will be immediately shown as Cash Cows or Dogs when this will not be the case.
- No guidelines exist for the ‘correct’ portfolio (Wind & Mahajan, 1981). The correct balance for one firm may be very different to another.
- Companies may invest too heavily in Dogs, hoping that an already failing position will improve (Wilson & Gilligan, 1997). Displaying a resemblance to Drucker’s ‘Investments in Managerial Ego’, managers will not want to lost face and therefore waste investment in an already failed product.

- Market attractiveness is measured by the use of growth rates, which may not be a robust enough measure on its own (Capon & Hulbert, 2001). Growth rates vary, and these alone do not show future potential within the market.
- Competitive strength cannot simply be shown by relative market share (Boyd et al, 2002). Other factors come into play such as efficiency, margin and profitability, with market share only playing a small role.
- Cash flow is the performance criterion used (Lancaster & Massingham, 2001). This is helpful in short-term actions, but long-run profitability is a better measure of performance.
- The model assumes that business units are independent (Doyle, 2001). Removing a Question Mark or Dog from the portfolio might remove the traditional reason for purchasing – allowing a competitor to enter or increase their profits.
- The results are very sensitive to variations in how both growth and market share are measured (Wind, Mahajan & Swire, 1983). Therefore, the model is open to personal interpretation, causing inaccuracies to be evident.

Despite these criticisms, the methodology itself still has a role to play within management circles as an indicator of position and potential strategic direction. The model is important due to its emphasis on a portfolio of products, balancing mature and declining products with those essential for future success. The clearest limitation of the BCG matrix is its inability to operate in negative growth markets. The Product Life Cycle Portfolio Matrix (Barksdale & Harris, 1982) introduces this ability, together with the introduction of new products.

Essentially extending the model vertically above and below the BCG approach, it follows the product life cycle concept but only considers aspects where the product is actually being sold. Future investments are not part of the model. These also require cash, and an extension to the

BCG Matrix created by McDonald allows for this approach (McDonald, 1985 in Drummond & Ensor, 2001). For example, when Mercedes launched the W123 series in 1977, they were already starting work on its replacement, the W124 series even though this was not launched until 1986.

The Family Portfolio Matrix

In terms of overall management of the portfolio, a cradle-to-grave approach is becoming a requirement with clear management of the process beginning long before launch of the product and continuing long after the product has been withdrawn from sale. Reminders of products once made by the firm can continue for many years after they are no longer for sale, potentially re-appearing years later. A clear example of this was the re-launch of the Mathmos lava lamp. Following a successful sale of a box of twenty lamps at Portobello Road in 1990, Cressida Granger called the phone number on the back of the box. Someone answered, a deal was made and the lamps were for sale once more. This draws into the model the concept of managing the portfolio after its' apparent life has ended.

In addition, prior to the commencement of Research and Development, products start as ideas. These still carry weight, allowing the allocation of some resources to conceptual development prior to full research occurring. Overall, a new portfolio matrix is appearing, and this is presented in Figure 2:

Family Portfolio Matrix

Low		Infants		Ideas & Concepts			
		Cash generated ++	Cash used -	Cash generated 0	Cash used -		
High		Rising Stars		Problem Children		Research & Development	
		Cash generated ++	Cash used --	Cash generated +	Cash used ---	Cash generated 0	Cash used ---
Low		Cash Cows		Dogs		Hibernating Squirrels	
		Cash generated +++	Cash used -	Cash generated +	Cash used -	Cash generated 0	Cash used (-)
Negative		Warhorses		Dodos		Lingering Memories	
		Cash generated ++	Cash used -	Cash generated (+)	Cash used -	Cash generated 0	Cash used 0
		High	Low	Nil	Relative market share		

The model comprises components of both the Product Life Cycle Portfolio Matrix (Barksdale & Harris, 1982) and McDonald’s addition of Research and Development approach (McDonald, 1985 in Drummond & Ensor, 2001), together with the additional of a concept to memory slant belying the traditional managerial approach to portfolio management. These present a portfolio as comprising:

- *Problem Children.*
- *Rising Stars.*
- *Cash Cows.*
- *Dogs.*
- *Warhorses.*
- *Dodos.*

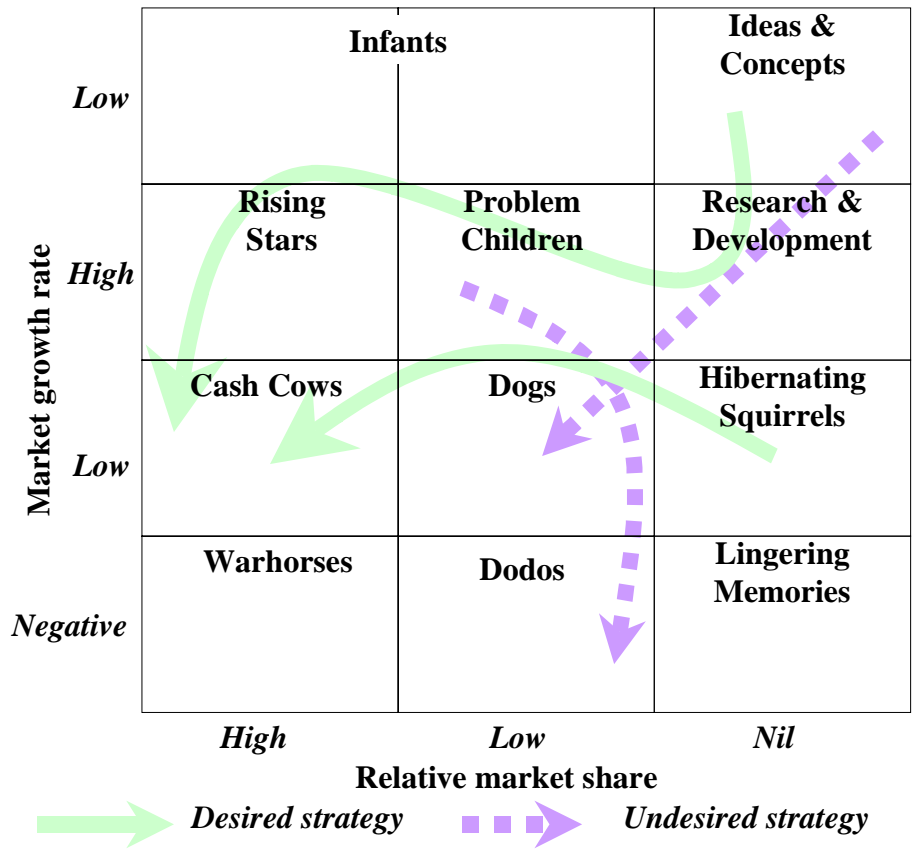
➤ ***Research & Development.***

With the addition of three extra boxes, this then becomes a twelve-cell matrix the additions being:

- ***Ideas & Concepts*** – requiring some cash input, the generation of initial ideas for new products and/or product improvement form the basis of future Research and Development. However, cash generation will be nil and therefore a resulting negative cash flow will occur.
- ***Hibernating Squirrels*** – once a product is withdrawn from sale, it may return in the future or be sold to a competitor. Therefore it does not disappear from the portfolio although no income is generated. The management required for the product is minimal, although this will result in a small negative cash flow.
- ***Lingering Memories*** – even after a product is no longer sold, and may even be produced by a competitor current and potential customers will remember your firm for the product produced. Whilst there is no income or overall cost, this presents a potential future source of income if the residual benefit can be capitalised upon.

The resulting strategic directions can be seen in Figure 3, where the desired strategy is aimed to lead to the greatest overall cash flow. However, there are many potential pitfalls when launching new products – the failure rate of 80% of new toys illustrates the hazards facing any firm when managing its portfolio of SBUs or products.

Family Portfolio Matrix – Strategic Flow



In terms of managing a portfolio, the firm should aim to invest in the idea. Once launched, further investment is required to allow the new product to grow – gaining market share. As the market growth slows, consolidation is required by purchasing competitors. Alternatively, the undesired strategy takes the investment in a product and either invests in a product which will ultimately fail or fails to capitalise on the potential. The subsequent result is poor return on investment, which may lead to a detraction from investment in future products. Whilst this model still retains some of the criticism levied at the original BCG matrix, in terms of over-simplification, it carries the concept of portfolio management way beyond the simple sale of current product. It brings into play the overall management of past and future SBUs or products – creating a cradle-to-grave approach beyond that of the BCG Matrix.

Testing the Model

At present, the concept of the Family Portfolio Matrix is in its development and is a piece of emergent theory and is therefore in working paper form. As such, it requires testing. The methodology for this covers a range of twelve case studies from a range of business areas and locations:

- A medium-sized prestige furniture manufacturer , located in north London,
- A small environmentally-friendly engineering firm, located in Northern Ireland,
- A small antique furniture importer and restorer, located in the north of England,
- A newly formed food packaging manufacturer, located in the south-west of England,
- A large charitable organisation, with branches throughout the United Kingdom,
- A recently-formed government quango located in London,
- A large NHS Trust, located in the north midlands of England,
- A medium-sized children's toy manufacturer, specialising in doll's houses and located in the north of England,
- A small London-based party decorations manufacturer,
- A large theme park, based in the north of England,
- A large public-owned corporation, providing a national and international range of products and services,
- A large national charity, providing a wide range of services and products.

Each of these organisations will be involved in a semi-structured interview to be conducted between February 2003 and August 2003, together with a detailed analysis of their

product/service portfolio. This is designed to test and evaluate the potential of the model for each of its elements.

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