Strategic Product Management

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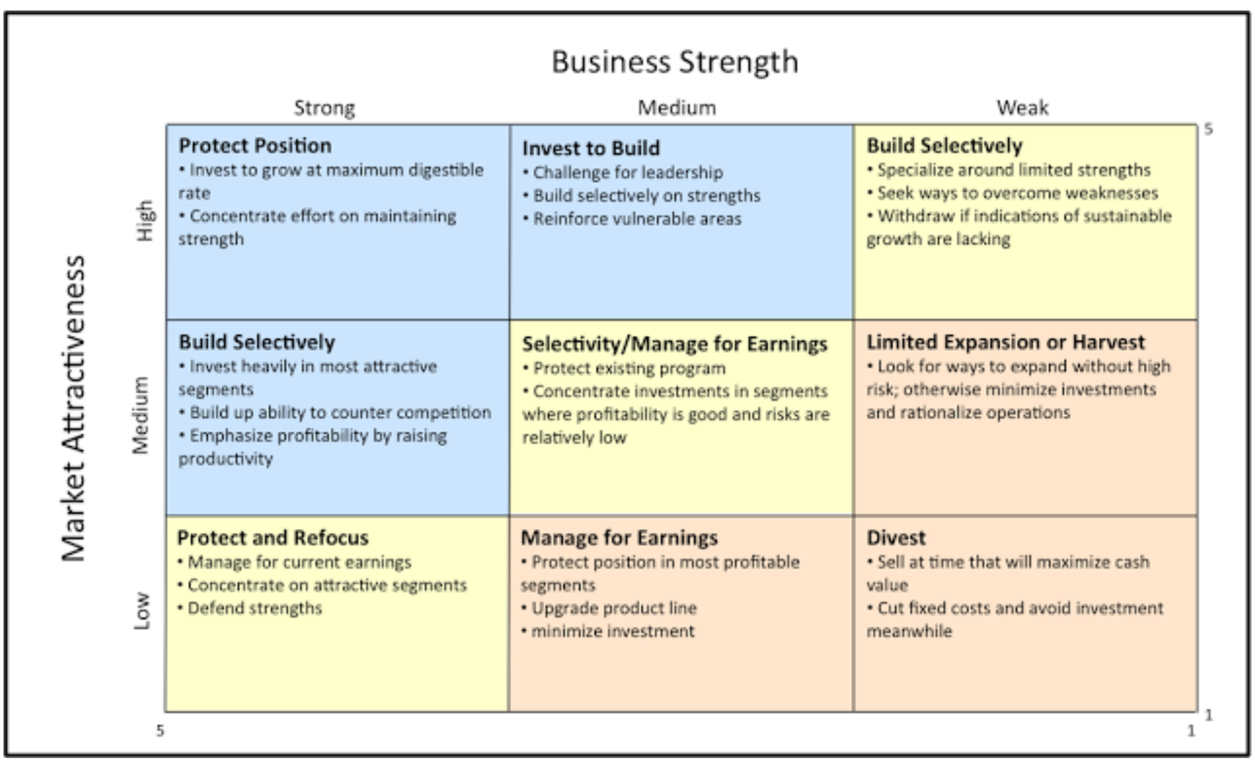
Product Strategy Tools - GE/McKinsey Portfolio Matrix

By Paul Moxon (extracted and edited by Douglass Wm. List)

Overview

The GE/McKinsey Multi-factor Portfolio matrix was developed as a more sophisticated version of the BCG Growth-Share matrix. *(Ed. This is not true - the McKinsey matrix is about ten years older. You can't believe a lot of what you read in third-party summaries on the web.)* In a similar manner to the BCG matrix, the GE/McKinsey matrix plots "Market Attractiveness" against "Business Strength" (i.e. the competitiveness of the business unit or product in the market). Whereas the BCG matrix uses growth as a measure of market attractiveness and market share as a measure of business strength or competitiveness, the GE/McKinsey matrix uses multiple criteria to determine these values. This provides a more realistic measure than the simplistic measures used by the BCG matrix. The GE/McKinsey matrix is also divided into a 3x3 grid (see below) to provide a more fine grained view of the strategic position of a business unit or product than the simple 2x2 BCG matrix.



In keeping with the wide applicability of the GE/McKinsey matrix across many industries and ranging from large business units to single products, the criteria used for determining market attractiveness and business strength are not rigidly mandated. GE developed a few criteria when they first starting using the matrix, but different people have suggested differing criteria. Effectively it is left to the user to determine which criteria meet his or her needs. The ones that I have used are:

<u>Market Attractiveness</u>

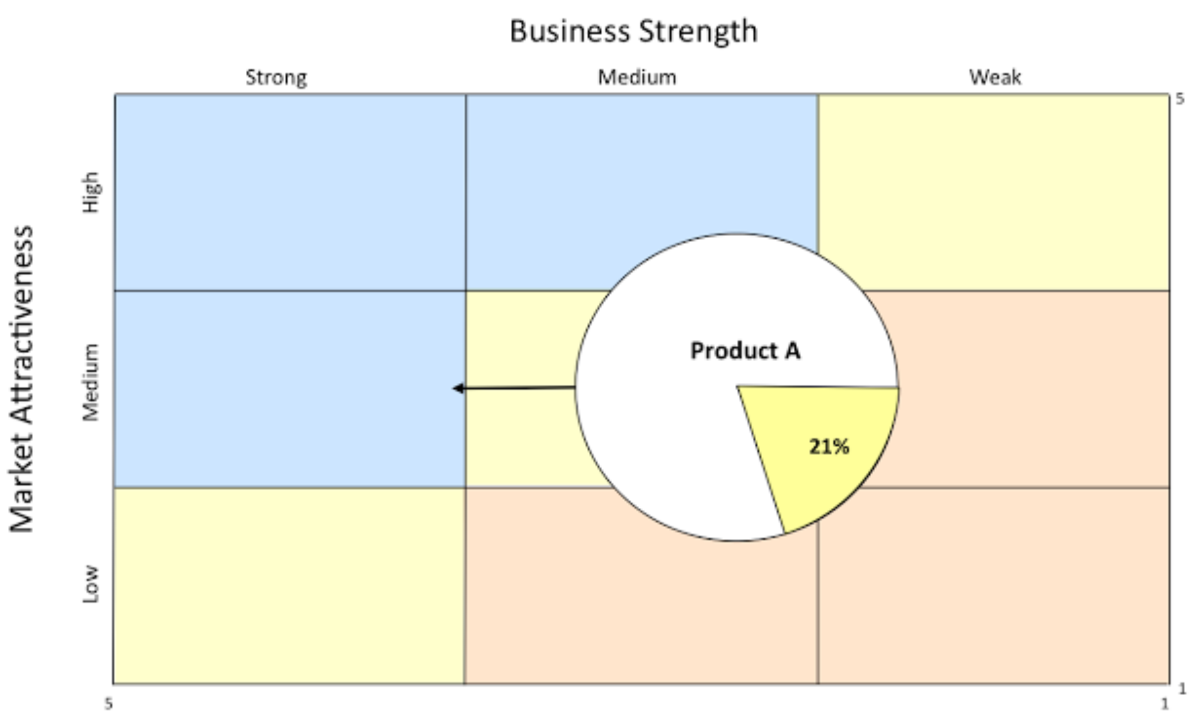
1. Market Size - Relative total addressable market (TAM) for the product
2. Market Growth Rate - Growth rate of the market (or segment)
3. Historical Profit Margin - Consider the cost of goods (e.g. royalty payments for embedded products) and the resources used developing and supporting the product
4. Competitive Intensity - The more competitive the market, the lower the score.
5. Knowledge Requirements - Are there any specialist knowledge requirements to compete in the market?
6. Barriers to Entry - Are there any legal or cost barriers that prohibit competitors entering the market?
7. Political, Environmental, Social, Technological (PEST) Acceptability - These must be acceptable to enter this market. For example, selling crack cocaine would score highly on a lot of the above criteria (e.g. large profitable market, low barriers to entry, etc.), but would not be socially or politically acceptable...so don't sell drugs!

<u>Business Strength</u>

1. Market Share - Market share for the product, whether units, dollars, customers, etc. A consistent value must be used compared to competitors. Obviously, a neutral third-party analysis is preferred.
2. Market Share Growth - How is our market share growing? If so, how fast?
3. Product Quality - This is a subjective measure for the quality of the product. This is also related to the next criteria.
4. Brand Reputation -What is the overall reputation of the brand? In many cases, this can be influenced by the corporate brand reputation (e.g. Apple vs. Microsoft).
5. Distribution Network - What is the extent of our distribution network compared to that of the competition? Include direct sales and distributors.
6. Promotional Effectiveness - When we make announcements, do people listen? Are they reported in the industry press? Or are we just background noise?
7. Productive Capacity - What is our capacity and capability to produce products? Are we resource constrained? Or do we have capacity as and when needed? Can we produce products that (i) meet the market needs, (ii) are on time, and (iii) are to the necessary quality?
8. R&D Effectiveness - What is our ability to innovate and introduce new, differentiating features into the product? Are we market leaders or followers? Are we recognized as innovating in this market?

The weighting given to each criterion is decided by the user to reflect the relative importance of each to his or her particular circumstances. *(Ed. The author included a classic weights and ratings framework for quantifying positions on the matrix that is not reproduced here. This practice is not part of the original model and is often more harmful than helpful because it creates a false sense of precision to the analysis. Mathematical analysis of real facts such as market share and profit margins can and ideally should be used to support a qualitative assessment, but should not replace management judgement and debate.)*

The sum of the weighted criteria for market attractiveness and business strength give a set of coordinates which can be used to position the business unit or product onto the matrix. The business unit or product is represented by a circle, the size of which an indication of the size of the market.[1] This is similar to the way that business units or products are displayed on the BCG matrix. However, the GE/McKinsey matrix also shows the market share for the business unit or product as a segment of the circle and also indicates the future trends for market attractiveness and business strength values via an arrow that shows the future direction of the trend e.g.



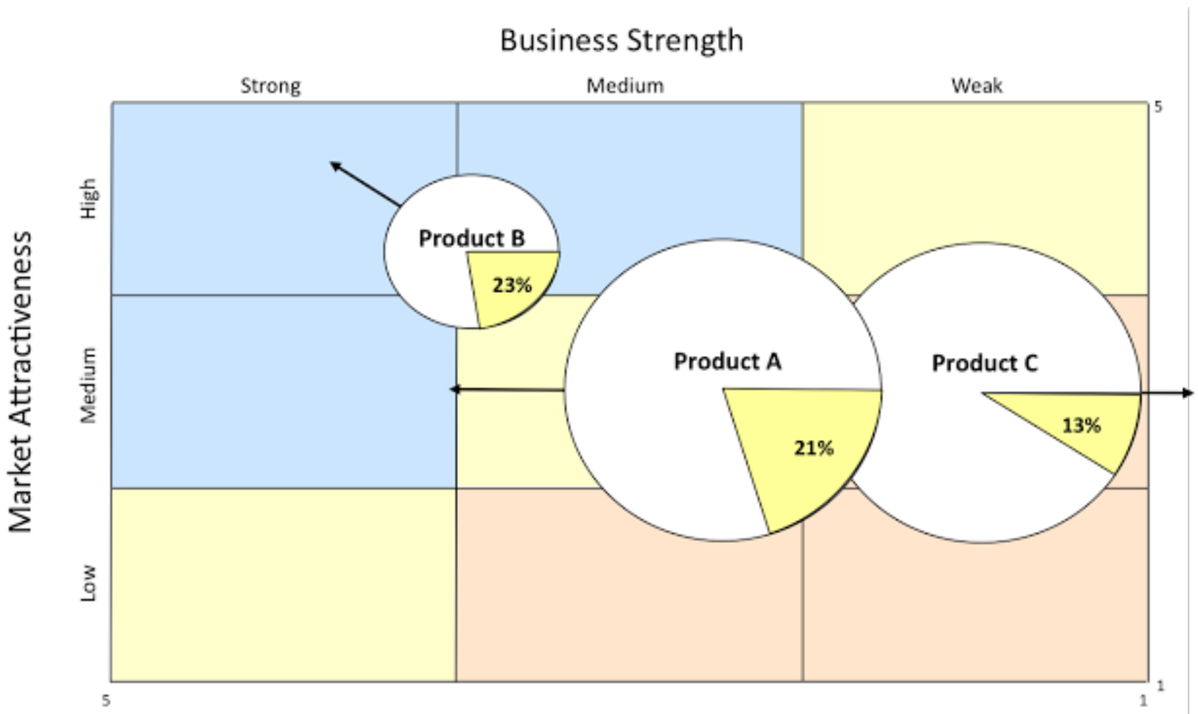
This matrix illustrates a product ('A') in a reasonably sized market with a market share of 21%. The market has medium attractiveness and the competitive strength of the product is slightly below average. The future trends indicate that the market attractiveness will not change over the timescale under consideration (two years in this case), but that the product will become more competitive in the market over this time frame. (Note that some of this was due to planned

[1] *Ed: This is one way of displaying data on the matrix. Others are also acceptable. The graphical representation should be reflective of the circumstances underlying the analysis.*

changes in the product, but some of it was due to anticipated changes in other criteria such as brand reputation). As a point of comparison, Product A would have been positioned in the "Cash Cow" quadrant of the BCG matrix.

<u>Uses of the GE/McKinsey Portfolio Matrix</u>

It is easy to see how the GE/McKinsey matrix provides an effective visual picture of not just where the business unit or product is today vis-à-vis market attractiveness and competitive strength, but also indicates the trend for the business unit or product in the future. By adding more business units or products to the matrix, you can get a good overview of the strategic situation of each of them e.g.



The above matrix shows two more products ('B' and 'C') that have been added to the original matrix. Product B is addressing a smaller but rapidly growing market and one where the company has a competitive edge. Product B would likely be displayed as a 'Star' in the BCG matrix.

Product C, on the other hand, has a negative outlook on its future. Its competitive strength is declining as indicated by the arrow pointing to the right. In reality, Product C was a legacy product and was losing market share to the next generation of products in the market (one of these being Product A). This explains the different trajectories in terms of competitiveness in the market (one declining, the other still getting better). They are in the same market segment, to the market attractiveness scores are identical (as this is independent of the actual product). Note that Product C would have been positioned in the "Dogs" quadrant of the BCG matrix.

One thing I should point out is the 'future trend' indicator on the matrix. This is the arrow showing the projected direction of the market attractiveness and business unit or product competitiveness. This is derived by asking the product managers to forecast how they think the market will change with regards to its attractiveness and also how the business unit or product will change with regards to its ability to compete effectively in this market.[2] I know that this is a bit of crystal ball gazing, but it is a valuable exercise as it forces the product managers to think about the market conditions a few years out. The time frame of this forecast will differ according to your particular circumstances, but I used a forecast for two years out (I work in the software industry) as I felt that this was a period in which you could get a realistic projection given today's market and emerging technologies. In other industries, this forecast window might be longer.

To determine the future trend, I asked the product managers to repeat the market attractiveness and business strengths analysis for two years into the future i.e. how to they think that the criteria scores will have changed in two years time. Obviously, we repeated the 'justify your answers' exercise so that they could explain why they set the future criteria scores as they did. This exercise provided a new set of 'future coordinates' - the arrow displayed on the matrix indicates that the position of the current business unit or product would change to move to the future position. (I tried to draw a future position circle on the matrix to show the future projection of the business unit or product, but the graph quickly became too crowded and difficult to read).

Projecting the future trend and results is not just an academic exercise. It helps to highlight how the market and product will change - it should illustrate the challenges and opportunities facing the business unit or product and how the company should address these challenges or take advantage of the opportunities.

I do want to add some caveats about the GE/McKinsey matrix. While it is an improvement on the much simpler BCG matrix, it is still not perfect. For example, it treats business units or products as isolated entities. This is not hat happens in reality - there is often relationships and dependencies between the various business units or products and the GE/McKinsey matrix does not capture this. In the above example, it is not clear that Product A is a software platform product and that Product B is dependent upon this platform. Without this important knowledge, it is easy to jump to the conclusion that resources should be invested in Product B and not in Product A. However, to do this would damage the Product A customer base that Product B depends upon.

Another challenge for new users of the matrix is trying to determine the most appropriate criteria for measuring market attractiveness and business strength. Sometimes this is trial and error and the analyst may be using someone else's work as a starting point. However, the criteria and weighting will be particular to your market and products, so you will need to spend some time deciding which ones are most appropriate.

[2] Note the reliance on people who "know" the industry and the products to assess the future of the industry and the product competitiveness. This same kind of qualitative assessment for the current industry attractiveness and product competitiveness is often more informative and useful than a mathematical "analysis" using factors, weights, and ratings.

My Experience with the GE/McKinsey Portfolio Matrix

I have used the GE/McKinsey Portfolio matrix extensively when looking at product strategy, product roadmap planning, etc. Like I have said above, it is a great tool for providing a visual overview of the your products. Given the fact that it is more fine grained and uses more positioning criteria than the BCG matrix, I prefer to use the GE/McKinsey matrix.

However, like the BCG matrix, I use the GE/McKinsey matrix as supporting materials rather than use it to derive the product strategy.[3] Senior management likes the visual overview and it helps to focus the discussion on the keys aspects of product strategy, i.e., this is where we are and this is what we are going to do.

I have also found that getting the product owners (i.e. product managers) to perform the analysis required for the GE/McKinsey matrix is incredibly valuable in its own right. Getting the product owners to really think about their market, its attractiveness (or otherwise), and the competitive strengths of their products within this market helps to make them focus on what matters. They are not thinking about one individual customer's needs or the technical solution to a given problem...they are forced to think of the big picture and how they (and their product) fits into it.

During the analysis phase of building the GE/McKinsey matrix, I usually play the role of the Devil's Advocate and challenge the reasoning and assumptions of the product managers. I sometimes think of this as a dry run for the questions that they would be asked when presenting their product strategy and plans to senior management. I have found that this exercise helped even experienced product managers to better understand their market and be better prepared for presenting to senior managers.

All in all, I like the GE/McKinsey matrix. It is a powerful tool that helps visualize the strategic scenario for a group of business units or products. It also helps the helps the managers of these entities focus on key strategic issues regarding the market and their position within that market...and this alone is a good thing.

[3] Ed: This is a critical point. One uses such tools to gain insight that is an input to strategy, and then to explain the strategy selected. The analysis does not *per se* tell you what the strategy should be.

About Paul Maxon

Paul Moxon is a seasoned product management professional with over 25 years of software industry experience. He has worked in the middleware space for about 20 years, progressing from real-time PDP-11 (anyone remember the RSX overlays and removable disk packs?) and VAX applications, though DCE, CORBA, and enterprise messaging to the SOA, CEP and cloud computing technologies. He has practiced the art of product management for many, many years and, during this time, has discovered, or been taught, and used many different tools and practices for managing product portfolios. He has found that when he introduces these tools and best practices to team members or peers, they also find them invaluable...hence his decision to write about them.