

Maximilian Bäuerle, Jobst Görne, Hochschule Aalen:

## **Comparison and Usage of the Boston Consulting-portfolio and the McKinsey-portfolio**

Preamble

Portfolio analysis

The BCG-matrix

Description of the BCG-matrix

Criticism of the BCG-matrix

The McKinsey-matrix

Description of the McKinsey-matrix

Criticism of the McKinsey-matrix

Comparison of both portfolio analyses

Conclusion

## 1. Preamble

The strategic management is gaining a lot of importance nowadays. A lot of companies are facing the issue that they have several products and even several strategic business units. To achieve competitive advantages in the market, the top management has to decide how to split up resources between these units regarding several factors to get a well-balanced and a future-proof portfolio. Furthermore potentials for failure as well as for success have to be identified to stay competitive. An important tool for the strategic management is the portfolio analyses which has the goal to improve the planning. Based upon the outcome of this tool decisions should be made on future activities. There are two well-known portfolio analyses established that will be presented in this paper, the Boston Consulting-matrix and the McKinsey-matrix. They will also get compared to see when to use the one and when to use the other and to analyze their advantages and disadvantages.

## 2. Portfolio analysis

The most portfolio analyses have in common that they display the business environment and the potential of a company on a two-dimensional representation. They differ in the overall target of the whole portfolio analysis and in the manner, the internal and the strength of the environment is measured. In general, it is possible to divide all portfolio analyses into two groups. The market-oriented portfolios and the resource-orientated ones. The resource-orientated portfolios try to give recommendations about the usage and change of resources based on their conditions and the market. The two most known resource-orientated portfolios are the technology portfolio and the business area-resources portfolio.

The BCG-matrix and the McKinsey-matrix are both market oriented portfolios. The main goal of the market-oriented portfolios is answering the question which products or strategic business units need more financial attention and which units could offer this attention. Consequently this leads to considerations on the creations of a financially balanced equilibrium. (Bea und Haas 2016, S.150)

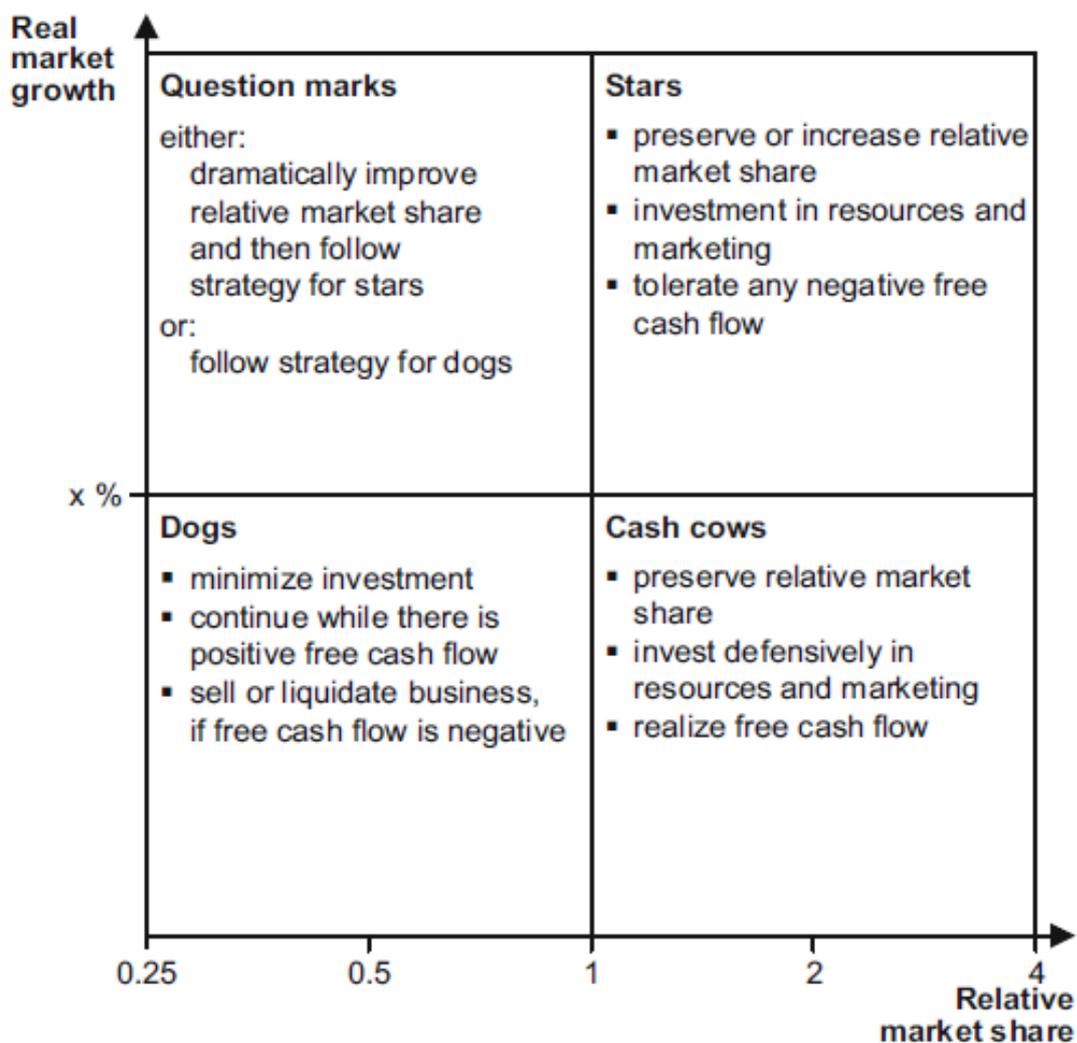
## 3. The BCG-matrix

The BCG-matrix was developed by the Boston Consulting Group in the late 1960's and the early 1970's. The well-known company had to deal with the Mead Paper Corporation, which had 45 operating divisions and 6 product lines by this time. They hired the Boston Consulting Group to manage the different business units and to define which product groups or business units were losing money. By doing

that, they wanted to be able to create an overall company strategy and furthermore the top management wanted to know how to allocate or reallocate resources between the different business units. Since this time, this portfolio

analysis is probably the most important tools for strategy setting and is used by a lot of companies and taught by a lot of professors and books. (Paul und Wollny 2011, S. 208)

Image 1: The Boston Consulting-matrix



### 3.1 Description of the BCG-matric

To meet all requirements of their customers, the consultants built up a framework which consisted of four categories. They tried to put every product line and every strategic business unit into one of these categories and deduce recommendations for the future strategic direction of each entity. In practice they consulted, if in particular, units should be invested or disinvested, should be acquired or sold or liquidated.

The ordinate of the four-cell matrix describes the environmental dimension by considering the market growth. The abscissa demonstrates the relative market share. (Kessler 2013)

It is important to mention, that the portfolio approach is based upon the product lifecycle and the experience curve in its whole consideration. The usage of the dimension of the market growth is highly linked to the product lifecycle. Based on the product lifecycle, it can be assumed that markets undergo four phases which lead to suggestions about the market growth and the market attractiveness.

The concept of the experience curve claims that with every duplication of the accumulated output quantity the real unit costs could potentially decrease by 20-30 percent. This means that the company with the highest market share is able to provide the lowest unit costs. (Paul und Wollny 2011, S. 209)

The relative market share is measured by the ratio between the own absolute market share and the absolute market share of the biggest competitor. This means the factor is a doubled relative value, which is smaller than one when competitive situation is strong and the company is the market leader. And higher than one when the competitive situation is low and the company is the market leader.

Furthermore, if the value is exactly one, the market share is exactly the same like the one of the most important competitor. Sometimes the area between one and one and a half is highlighted. This is based on experiences by the Boston Consulting Group which says that the cost advantages first starts to become increasingly important when the market share of a company is 50 percent higher than the one of the biggest competitor.

The market growth rate is the result of the development potential of the market in the coming years measured in percent. "It is generally considered that a growing market experiences an increase of around five percent of its sales by volume." This means that the market growth is usually quantified by the increasing respectively decreasing turnover measured in a predetermined period, usually one year, in a specific market. (Pepels 2015, S. 84–85)

So, the abscissa and the ordinate define a field which is divided into two sections which leads to four categories as it can be seen in Image 1. Each strategic business unit or each product gets now evaluated and entered in the matrix, presented by a circle. The size of the circle corresponds to the proportion of the relative turnover created by this product or business unit related to the overall turnover of the company.

The peculiarity of the matrix is that wherever the to be evaluated product gets positioned, the company is able to derive a standard strategy or an advise how to handle this product in the future.

To exemplify the situation which the products or business units find themselves in, the Boston Consulting Group gave the four categories descriptive names:

The *Poor Dogs* describe the quadrant of a low market share as well as a low market growth. Those are usually problem or discontinued products, that find

themselves in the degeneration respectively saturation phase. The issue is that they may block resources that could be used in other areas much more efficiently. There are two given possibilities to handle these markets. To minimize the risk of this area and to relocate the resources, it is suggested to disinvest or to stop the product completely. The other opportunity is to relaunch a variation of the product by concentric, horizontal or lateral diversification. But therefore, it has to be proven that there is a realistic chance to survive for this relaunched product. Summed up, the development costs, the investments in capacities and the marketing and sales costs are low or zero. The main advised strategy is to stepwise pull selectively out of the productline if it is not able to provide an appreciable contribution margin or the resources could be used better elsewhere.

The *Question Marks* are characterized by high market growth and a low relative market share. Those are new businesses or successor products that are still in a very early stage of the product life cycle. Their name Question Marks concludes that it is uncertain whether they're able to survive and develop in the market and if it is wise to invest or not. This leads to a selective strategy where it is suggested to analyze in detail in to which of them further financial resources for developing, sales and marketing and capacities should flow, as they are promising success or which of them should be rejected. This is also important as it is usually not possible for companies to finance all upcoming projects.

If it is decided to develop the business there are high initial costs combined with still pretty low market shares which leads to a negative cash flow in the beginning.

To be able to increase the market share, it has to be driven an offensive and risky strategy. This means a high investment in improving the value propositions,

specialization of the product, implementation of the technical innovations and an expansion in the sales policy.

As the risks and the consumption of resources are high, a company is able to only have a limited number of these businesses in their portfolio. On the other hand, it is crucial to invest in these markets to stay long-term competitive.

All in all it has to be decided in each particular case whether it is worth it to push business further or to disinvest and to relocate resources. (Reisinger et al. 2013, S. 95f.)

The *Stars* have both, a strong relative market share and a high growth rate. This means on the one hand that they're generating a lot of money but on the other hand that they need high investments to cope with the high market growth rate and to support the market dominance. Typically, these products would find themselves in the period of growth in the product life cycle. In this area the strategic management is advised to invest in developing, marketing and sales to maintain its large market share and to become a cash cow when market growth rate goes down. The risks in this category should be accepted. Therefore, more effort should be put in the product or the strategic business unit by diversifying, widening the customer range, opening new markets and improving and supporting the sales situation. This means it has to planned with continuously reinvestments. Once the market comes to its saturation phase the endurance and the investments to keep the high market share pay off and the product is ready to become a cash cow. Every diversified business portfolio should have some star products in their

backhand to ensure future cash flows and monetary resources that can be reinvested.

The *Cash Cows* are identified by a high relative market share but a low market growth. In this area the return on assets is greater than the market growth rate and thus achieve a higher outcome of money than they consume as it is absolutely unattractive for competitors to enter the market due to the high market shares. Moreover, the high market share leads, based on the theory of the experience curve to a greater potential in cost and efficiency optimization. It is generally advised to either not reinvest at all in these areas and to "milk" or "harvest" these products or to invest just very slightly to defend the market share as long as possible. Another opportunity is to reanimate the business by product variation to turn it again into a Question Mark or a Star. But this is the exceptional case and has to be weighed up very carefully.

Usually the Cash Cows are used as capital providers to turn Question Marks into Stars, to cover administrative costs of the company and fund the research and development departments and the less lucrative units. As they are this important for the whole survival of the company, it is well-considered to have the half of the overall business portfolio as Cash Cows. (Paul und Wollny 2011)

### 3.2 Criticism of the BCG-matrix

As this strategic tool is very popular and in addition quite old as well, it has to face of course some points of criticism. To start with, the matrix only differentiates

between "high" and "low", the user could be lead to an untrue black-and-white mindset. Furthermore, critics claim, that the scaling was set randomly and the

companies should scale their BCG matrix especially for themselves, which is once again very difficult and problematic.

Another point is that the labeling of the boxes are judgmental. This brings in an emotional component and people employed in a "poor dog" SBU could be discredited. (Drews 2008, S. 43)

As the portfolio analysis tries to combine the environmental analysis and the internal situation, it is a highly important tool for the strategic planning. A big disadvantage is that the BCG-matrix only uses one characteristic for the environmental situation and one characteristic for the situation in the own company. (Bea und Haas 2016)

The chart uses the relative market shares as an indicator for competitive strength. This is mainly founded in the PIMS study, which shows a direct dependence of the relative market shares and the return on investment. As the origin of the study lies in the early 1960's, there were a lot of other studies in the meantime which were able to refute or at least challenge this old concept. Furthermore, it is obvious, that if the evaluation of the competitive strength only happens through the relative market shares, like it does in the BCG-matrix, companies that drive a cost leadership strategy, get rated much better and companies that drive for example a differentiation or a niche strategy get rated worse. Another important negative

point in concentrating only in relative market shares is the problem in determining in the exact market and your own shares in it. The same issue faces the market growth on the x-axis of course as well. (Drews 2008, S. 43)

Probably the most important critic of the whole concept is the point that the market attractiveness can't be really measured only by the market growth as there exist markets that don't grow and are attractive for companies.

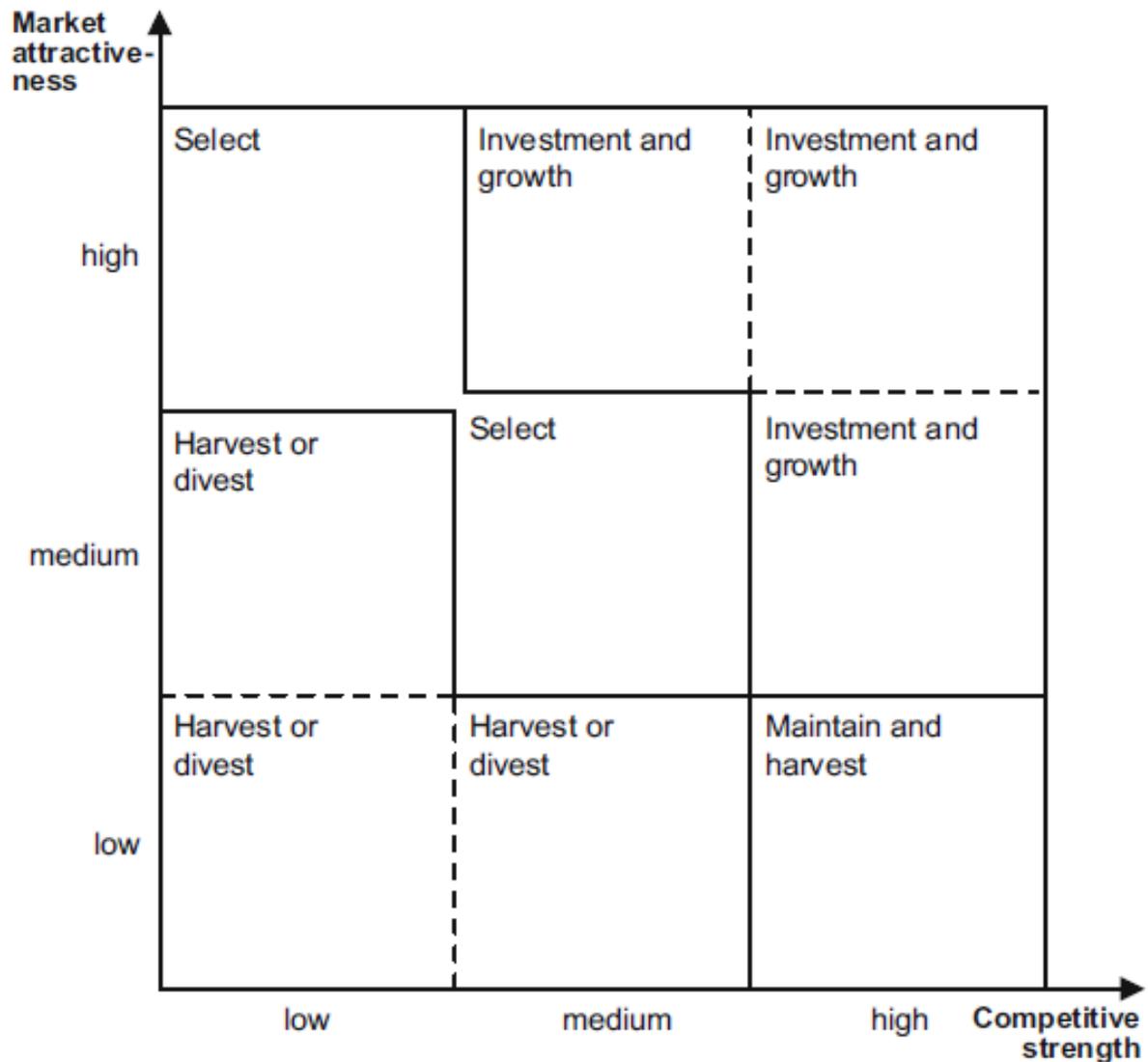
Another big problem for both axis of the framework is the definition of the market and its demarcation, as the borders are blurry and fluent and often hard to define. (Paul und Wollny 2011, S. 213)

## The McKinsey-matrix

As the BCG-matrix had to meet a lot of criticism for the just given reasons, there was developed another strategic planning tool: the McKinsey-matrix. In the late sixties and early seventies General Electric, a multinational conglomerate operating in a lot of segments like aviation, healthcare, power, renewable energy, manufacturing, finance, transporting and so on was seeking for a tool to differentiate the potential for future profit in their many business units. The company was disappointed in the return on investments they had in their various businesses which suggested faults in GE's approach to investment decision-making. The strategic top management of General Electric came to the conclusion that the BCG-matrix with only one indicator for the external situation and one indicator for the internal situation isn't eligible for their portfolio approach.

That's why they went to McKinsey and Company, another well-known american consultancy, to get advised within their portfolio and investment strategy. The company designed an approach for GE that differs in two ways from the BCG-matrix. As it can be seen in *Image 2*, it has nine instead of four blocks and the axis describe the internal and external situation completely differently, using market attractiveness and competitive strength. The matrix is also known as GE-matrix or nine-box matrix.

Image 2: The McKinsey-matrix



#### 4.1 Description of the McKinsey-matrix

To meet all requirements, the consultants developed a screen and tried to include some more sub-indicators in the two main indicators. Therefore, the compounded values are based on a scoring model to insure a better coverage of both dimensions and also to be able to include qualitative aspects in the portfolio. Based on the positioning in the portfolio the user is able to apply standard

strategies and recommendations to ensure a well-balanced and a future-proof business portfolio.

The ordinate of the nine-cell matrix describes the environmental dimension by considering the market attractiveness which includes different criteria. The abscissa is handling the internal company dimension by regarding the competitive strength which as well includes different factors and criteria. The two axis create a nine-cell matrix as they are subdivided by high, middle and low. (Grünig und Kühn 2018)

After it is defined which factors should be included, the determination is made by scoring points. Each criterion is evaluated individually and included in the overall rating. From this, the average is formed, which defines the position within the scale of abscissa and ordinate.

Just like in the BCG-matrix, the size of the circles of the to be evaluated product or business unit corresponds to the turnover related to the overall turnover of the company. Furthermore, depending on the position of individual units, it should as well offer guidelines for strategic behavior. The overall goal of these recommendations is the maximizing of the return on investment. (Bea und Haas 2016)

This portfolio analysis is able to respond each company's needs as it is able to include different sub-factors in its axis which generates one main factor. To define how for example the market attractiveness has to be defined, it has to be chosen which factors should be included. These factors can be weighted and rated differently in the framework of a scoring model. (Pepels 2015, S. 96) The rating is influenced by quantitative data (for example the turnover in figures), the description of quantitative data (for example market leader based on turnover) and by qualitative aspects (for example the degree of the competition). (Paul und Wollny 2011, S. 220)

To determine the market attractiveness and the relative competitive strength it is important to understand that there is no predefined list of factors that has to be included. In each case it has to be differentiated and considered which factors are crucial.

To give an overview of the given possibilities to describe the market attractiveness the literature suggests a catalog of four main factors that could be involved. The first one is the market size respectively market growth by analyzing for example the market volume, the historical market growth, the development of the market, the stage in the market life cycle, the impact of productivity increase and the expansion of the market space.

The next main criteria the market quality is evaluated by the return on sales, the technical know-how which is given in the company and the ability to protect it, the intensity of the competition and the number of competitors, the strengths of the market entry barriers, the level of needed investments, the potential of innovations, seasonal fluctuation, requirements of distribution and service performance and the financial scope of price setting.

The third main factor considers the needed resources and the energy supply. Those are affected by the power and the reliability of the suppliers, the given alternatives of suppliers and the price stability of the supplied goods.

Last but not least the environmental situation is influenced by the dependency on economic trends, the market acceptance and restrictions due to political laws and economies. (Pepels 2015)

On the other side the competitive strength is as well determined by four main factors, where a big focus is in the area of the value chain. As it will turn out that the quantification of the selected aspects of the competitive strength is very hard to do, it is easier to fall back on qualitative elements. Of course, it also depends on the availability of the needed figures in the market. For rating the following

factors, it turned out that the sales manager are often able to give qualified and good assessments.

The first variable is the own market position which can be characterized by the relative market share, the financial strength, advantages in pricing or qualities, the profitability measured in gross profit or EBIT-returns and the growth rate of the company compared to competitors.

The second ingredient is the production potential, expressed through productivity, locational advantages, economies of scale and scope, capacity, intellectual property, technical know-how and flexibility and licenses.

Furthermore, the potential of the research and development should be considered. This is done by looking at the personal and financial resources and possibilities and the overall degree of innovation that can be split up in different factors.

Finally, the qualification and ability of the top management should also be included. This can be done by evaluating the professionalism, the working atmosphere and the company's organization. (Paul und Wollny 2011, S. 225)

As with the Boston Consulting Group approach, they should not be applied as planned strategies without further reflection but should be critically reviewed as guidelines. (Grünig und Kühn 2018, S. 128)

As the ordinate and the abscissa are divided into high, middle and low, there are nine areas arising which can be summarized in three zones that determine the three main norm strategies. These zones are usually colored green, yellow and red. Besides that, it is also possible to derive more differentiated and specialized strategies from the single boxes.

The three cells at the top right-hand side of the matrix are the most attractive in which to operate. It is the zone of investment and growth and they contribute to the future profits. The main objective in this area is the assurance and the development of potentials for success, as the high market attractiveness and the

relative competitive strength can suggest. Sub-goals are the increase of the awareness level, the acquisition of companies that are related to the own business and a high price level. Measures are for example the acceptance of risks, the optimization of marketing, the increase of the market share and product variety, the empowering of the market barriers and the opening of new markets. Therefore, it has to be invested a lot of resources and the consumption of financial resources is typically greater than the profit. Nevertheless the risks should be taken as these strategic business units or products are the future profit savers. (Reisinger et al. 2013, S. 96)

The three boxes at the bottom left-hand side have the least market attractiveness and the least competitive strength, therefore the top management is advised to follow a policy of harvesting and divestment unless the relative strength can be improved. The zone is often colored red. Depending position in the portfolio and the expected chances of success it is either recommended to completely disinvest and to even sell or reduce commercial units if the market attractiveness as well as the competitive strength is low. The other two cells are characterized by specialization, the exploration of niche markets and an alternative consolidation or the harvesting of gainings, the minimization of investments and the planning of a strategic retreat of the product or the strategic business unit. Summing up, the products in this zone are marked by the release and the allocation of funds and resources. (Pepels 2015, S. 97)

The three cells running diagonally from bottom right to the top left corner represent the yellow zone. They either have a low market attractiveness combined with a high competitive strength, a medium attractiveness combined with a medium strength or a high attractiveness combined with a low competitive strength. Depending on the position and the portfolio's balance, it is advised to defense, to consolidate or to expand. The management of businesses within this category should be more cautious and with a greater emphasis being placed on selective investment and earning retention.

That's why it is called the zone of selective strategies. The main goals in this area are the promotion of customer loyalty, the customer acquisition and the rely on conservative financing options. Actions in this area could comprise a growth strategy, a high market attractiveness and a low competition, which is reached by specialization, the provision of a niche policy and the assessment of possible acquisitions. A middle attractiveness as well as a middle competition result in a very selective strategy which is conducted by identifying possible expansion fields, specialization and selective investments. A low market attractiveness and a high competitiveness lead to a keep-and-safe strategy, where it is advised to maximize the return of the cash-flow and to invest

only to maintain the product or the strategic business unit. (Paul und Wollny 2011, S. 219)

#### 4.2 Criticism of the McKinsey-matrix

Now the McKinsey-matrix, like the BCG-matrix and all generic strategy models has its own set of limitations and points of criticism. The literature often denounces that the GE-matrix assumes that there is a causal connection between the included factors and the chances of success of a strategic business unit or a product. This connection is often different and can only be suggested. This leads to a degradation of the importance of the derived norm strategies and therefore for the whole tool.

Another point is that the portfolio only looks at the current situation and ignores mostly how positions might change through changes in the industry and the economy.

Furthermore, a big problem is that the qualitative circumstances have to be evaluated in a subjective process. But decisions are often characterized through complex structures, unknown interdependencies and unawareness of facts. In

addition, the selection of the included factors and their weighting is facing the same issue. The accumulation of these subjective assessments leads to the point that a previous average of this analysis, the involvement of multiple factors can lead to a big disadvantage. (Macharzina und Wolf 2010, S. 367–368)

Moreover, it is obviously that availability and the topicality of the needed data is presenting a complication. This is also related to the difficulty and the costs that this portfolio analysis requires.

Finally, the McKinsey-matrix is facing of course the same problems as all portfolio analysis does which are already described in **section 3.2**. This includes for example that the result of this tool is sensitive to the definition of business markets. (Paul und Wollny 2011, S. 230)

## 5. Comparison of both portfolio analyses

The GE-matrix and the Boston Consulting Matrix are in a lot of points similar. Nevertheless, both analyses have their right to exist as both of them have different advantages and operating fields.

To begin with, the biggest difference and the biggest criteria, which should be used is based on the product the business unit is producing. It should be strictly differentiated between typical consumer goods which traditionally have a product lifecycle and products that don't have a product lifecycle, which are typically found

in technical markets. Due to the strong connection between the market growth axis of the BCG-matrix and the product lifecycle, this portfolio analysis should be used for products or business units in consumer and anonymous markets that experience a product lifecycle. On the other hand the McKinsey matrix is useful for technical and known markets That is the reason why in technical sales for example the McKinsey-matrix is used as it can't be expected that the to-be-analyzed product has a product lifecycle.

Then it should be clarified the difference of the usage of both models. Whereas the BCG-matrix is mainly used by companies that want to know how to relocate and how to deploy their resources among their various business units and products, the GE-matrix is mainly applied to find out how to prioritize investments among strategic business units.

So first of all, it should be determined, what exactly the intention of the analysis should be. Then there are different advantages and disadvantages that should be taken into account. To begin with, the determination of positions in the BCG-model is a lot easier as it uses clear and quantitative criteria. This is on the one hand a big plus as it simplifies the whole process. On the other hand, like previously described in **section 3.2**, the market attractiveness is way too complex to describe it only through the relative market growth. On the other side the involvement of different factors for the measuring of the market attractiveness and the competitive strength creates a much more realistic presentation of the external and internal business situation. The interrelation between quantitative and qualitative data, personal experiences and assumptions of the management

and consensus decisions is probably always closer to the reality than only considering one factor like the BCG consultants do.

Moreover, the classification in to three categories per axis within the McKinsey-model leads to more differentiated norm strategies compared to the 4 boxes of the BCG-portfolio.

The BCG-matrix uses the clear correlation between its two dimensions and the output and use of funds. Therefore, it is much more appropriate to check how balanced the business portfolio of a company is.

Finally, it can't be said whether the one or the other analysis is better in general. Both of them have advantages and disadvantages and depending on the needed complexity, usage and other factors, it should be decided which tool will be used. (Pepels 2015, S. 99)

## 6. Conclusion

Both models represent an important tool for the strategic orientation of a company. They enable managers to assess whether the business portfolio is well-balanced to ensure a long-term profit and survival and growth of the company. The models shouldn't be seen as tools that require strict observance regarding the norm strategies nor they answer all strategic questions when it comes to a diversified business and organization as it was announced when they were developed in the 1960's and the 1970's.

Instead, the two models should help the management to check the overall situation of the portfolio and to give cautious estimations about future strategy changes and improvements. Furthermore, the matrices can be seen as communication- and moderation tools that represent important milestones in strategy setting that illustrates a company's situation. This way, the analyses are able to overcome a lot of their points of criticism. Both models have several times been updated, renewed, combined with others and supposed to be replaced. The reason why they are still very popular and thought quite often, is that both models represent usual market practices. That's why everybody at least should heard and understood once those concepts as they generate and create a general understanding of strategy setting and portfolio analysis.

## List of references

Bea, Franz Xaver; Haas, Jürgen (2016): Strategisches Management. Praxisausgabe. 8., überarbeitete Auflage. Konstanz, München: UVK Verlagsgesellschaft mbH.

Drews, Hanno (2008): Abschied vom Marktwachstums-Marktanteils-Portfolio nach über 35 Jahren Einsatz? Eine kritische Überprüfung der BCG-Matrix. In: *Zeitschrift für Planung* 19 (1), S. 39–57. DOI: 10.1007/s00187-008-0041-8.

Grünig, Rudolf; Kühn, Richard (2018): The strategy planning process. Analyses, options, projects. Second edition. Berlin: Springer.

Kessler, Eric H. (2013): Encyclopedia of Management Theory. Thousand Oaks: SAGE Publications.

Macharzina, Klaus; Wolf, Joachim (2010): Unternehmensführung. Das internationale Managementwissen. 7., vollst. überarb. und erw. Aufl. Wiesbaden: Gabler.

Paul, Herbert; Wollny, Volrad (2011): Instrumente des strategischen Managements. Grundlagen und Anwendung. München: Oldenbourg.

Pepels, Werner (2015): Strategisches Markt-Management. 3. Auflage. Berlin: BWT Berliner Wissenschafts-Verlag.

Reisinger, Sabine; Gattringer, Regina; Strehl, Franz (2013): Strategisches Management. Grundlagen für Studium und Praxis. München: Pearson Higher Education (Always learning).

## List of illustrations

Image 1: Grünig, Rudolf; Kühn, Richard (2018): The strategy planning process. Analyses, options, projects. Second edition. Berlin: Springer, Page: 113

Image 2: Grünig, Rudolf; Kühn, Richard (2018): The strategy planning process. Analyses, options, projects. Second edition. Berlin: Springer, Page: 119