INTERNAL POTENTIALS OF COMPETITIVE ADVANTAGES IN TRADITIONAL SMEs – to answer global Challenges

Master Thesis
to obtain the academic degree of

Master of Science
in the Master's Program

General Management
STATUTORY DECLARATION

I hereby declare that the thesis submitted is my own unaided work, that I have not used other than the sources indicated, and that all direct and indirect sources are acknowledged as references.
This printed thesis is identical with the electronic version submitted.

Linz, 12th September 2016

[Signature]
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LIST OF ABBREVIATIONS

CBV       Capability-based view
e.g       exempli gratia
FDI       Foreign direct investment
ICT       Information and communication technology
KBV       Knowledge-based view
MBV       Market-based view
RBV       Resource-based view
R&D       Research and development
SMEs      Small and medium-sized enterprises
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EXECUTIVE SUMMARY

With reference to Helfat et al. (2007, p. 1), markets become more globally integrated due to globalization. This leads to the fact that new forms of technologies and competition arise. Therefore, it is crucial for organizations to adapt to and exploit changes in their external environment in order to gain sustainable competitive advantages. Especially, traditional SMEs are facing many obstacles when markets become international. Macmillan (2008, p. 6) and Pfohl (2006, p. 20) state that traditional SMEs exhibit limited financial resources because firms of this size have no access to the anonymous capital market. Other obstacles – according to Macmillan (2008, p. 6, 9) – lie in the range of products and services if they are not exportable or the risk of export would be too high. When traditional SMEs would be interested in enter global markets, they are facing challenges regarding identifying market opportunities and reliable business partners next to problems concerning obtaining suitable financing (Macmillan 2008, p. 6, 9). Therefore, the question that arises is how traditional SMEs can gain long-term competitive advantages when facing global challenges.

For these reasons, the objective of this Master Thesis is to identify what methods and tools are suitable for the identification of internal potentials of competitive advantages in traditional SMEs, and to what extent do these tools address global challenges. In order to answer this research question, qualitative and quantitative characteristics of traditional SMEs are discussed, as well as main global challenges. When discussing quantitative characteristics of traditional SMEs, limited financial resources are mentioned most of all in the literature (Pfohl 2006, p. 20). Furthermore, traditional SMEs cover a small-dimensional personalized demand in a geographically narrow market segment (Pfohl 2006, p. 19). When it comes to qualitative characteristics, owners of traditional SMEs often show insufficient corporate management skills, have a technical-orientated education, and hardly conduct any strategic planning.

The characteristics of traditional SMEs compared to large enterprises is the basis of the evaluation criteria in order to assess if the selected tools are suitable for the application in traditional SMEs. Thus, each tool is evaluated by four criteria (1) amount of financial resources, (2) organizational effort, (3) easy comprehensibility, and (4) answering global challenges. The evaluation is based on a scale that reaches from 0 to 5 and the average of the four criteria leads to the suitability of the selected tools.
The objective of this Master Thesis is to identify internal potential of competitive advantages in traditional SMEs. Therefore, the selected tools are based on the four views of the resource-based perspective. The (1) resource-based view, (2) capability-based view, (3) competence-based view, and (4) knowledge-based view. The resource-based view assumes that firms are a collection of productive resources. So, the basis for competitive advantages lies in a company’s resources (Penrose 1959; Barney 2002). The proponents of the capability-based view, like Amit and Schoemaker (1993) or Teece et al. (1997) assert that long-term competitive advantages derive from bundles of capabilities based on specific resources of a firm. Whereas, the core statement of the competence-based view is that the main task of management lies in the viability and development of core competencies in order to sustain competitive advantages (Krüger/Homp 1997, Prahalad/Hamel 1990). The knowledge-based view, on the other hand, sees the basis of competitive advantages in a firm-specific knowledge that enables a firm to become a “body of knowledge” (Floyd/Wooldridge 2000, Nonaka/Takeuchi 1995).

The evaluation of the suitability of the selected tools based on characteristics of traditional SMEs discussed in chapter 2 shows that it seems that only three out of eight tools are suitable for the application in traditional SMEs and, at the same time, give some implications for global challenges (see figure 1). This is due to the fact that it looks as if these tools (VRIO, core-competence portfolio, spiral of org. knowledge creation) does not require a high level of financial resources and organizational effort, and they are relatively easy comprehensible. Nevertheless, it seems that these tools do not deliver sufficient answers for global challenges, traditional SMEs are facing. Furthermore, it appears that tools, which provide implications for global challenges on a high level, are not suitable for the application in traditional SMEs because they require a high level of financial resources and organizational effort and are often complex in its execution. Figure 1 shows what tools are suitable for the application in traditional SMEs and to what extent they answer global challenges.
Based on the evaluation of the suitability of the tools, it can be concluded that more research in the field of strategic management towards SMEs is necessary in order to provide them with tools and methods to identify their internal potentials of competitive advantages and, at the same time, give implications about their current global challenges.
1. **INTRODUCTION**

This chapter constitutes an introduction to the Master Thesis’ topic – internal potential of competitive advantages of traditional SMEs – to answer global challenges. In this chapter it will be clarified what is the problem statement of the topic, the objective of this thesis and its research question, followed by the structure and methodology.

1.1. **PROBLEM STATEMENT**

“A firm experiences competitive advantages when its actions in an industry or market create economic value and when few competing firms are engaging in similar actions.” (Barney 2002, p. 9)

The above mentioned quotation from the famous professor Jay Barney provides a good explanation for the term competitive advantages. However, the main question here is how can firms gain a long-term competitive advantage when facing several global challenges. In more concrete terms, what internal potentials must a traditional SME possess in order to stay competitive and how can these potentials be detected?

As reported by Barney (2002, p. 7), the main question in the field of strategic management is how a company is able to compete successfully in its industry. Until the end of the 20\textsuperscript{th} century, one answer for this question relied in the market-based view (MBV). In 1956, Bain suggests with the publication of the “Structure-Conduct-Performance-Paradigm” that the success of a company depends on specific characteristics of its industry, which again determine the behaviour of a company (Müller-Stewens/Lechner 2011, p. 129). Another famous representative of the MBV is Michael E. Porter, which states that a competitive strategy derives, on the one hand, from the structure of an industry and, on the other hand, from an analysis of competitors (Porter 2014, p. 24). In contrast to this, the resource-based view (RBV) emerged at the end of the 20\textsuperscript{th} century. Edith Penrose (1959) conceptualized in her book “The theory of the growth of the firm” that a firm is a collection of productive resources (Penrose 2009, p. 21 ff.) According to Müller-Stewens/Lechener (2011, p. 346), it was the first time that a scholar set resources of a firm at the center of research. Based on Penrose’s assumptions, Wernerfelt (1984) introduced a scientific movement in the 1980s, which focus on the internal perspective of a firm – the resource-based view.
Hence, the sources of competitive advantages are no longer an auspicious position in the market, but rather resources within a company, also called “Resource-Conduct-Performance-Paradigm” (Müller-Stewens/Lechner 2011, p. 346; Hungenberg 2014, p. 151). Further, Prahalad and Hamel defined the term “core competences” for the first time in their article “the core competence of the corporation” around 1990 (Hungenberg 2014, p. 153). Another famous advocate of the RBV is Jay Barney (2002, p. 155), who states that the RBV focuses on specific, costly to copy resources controlled by a firm. Further, the exploitation of these resources may give a firm a competitive advantage. Barney’s VRIO framework is a popular tool in order to identify a firm’s core competencies. Beside this, Teece/Pisano and Shuen (1997, p. 515) established the idea of dynamic capabilities in order to renew competences and capabilities to match the requirements of a changing environment.

Helfat et al. (2007, p. 1) state that due to globalization, markets have become more and more international that leads to new technologies and competition. Especially, for traditional SMEs it has become more difficult to compete against huge global players. According to Pfohl (2006, p. 20), SMEs have limited financial resources. Consequently, it is harder for them to conduct market research or other costly internal and external analyses. Also, Macmillan (2008, p. 10) states that identifying good market opportunities is one of the several global key challenges for SMEs. Nevertheless, Macmillan (2008, p. 10, 21) points out that if a traditional SME decides to enter the global market, it has to focus on technological and innovative capabilities, and protecting intellectual assets and business information in order stay competitive in the long-run (Sui/Baum 2014, p. 827).

This could be one reason why there exist a lot of successful SMEs that are the market leader in their segment – so called “Hidden Champions” (Simon 2012, p. 83). One explanation for their success, according to advocates of the resource-based perspective like Wernerfelt (1984), Barney (2002) or Teece et al. (1997), is a combination of their resources that is unique in the market. So, differences in a company’s success derive from differences in its resources. A combination of this argument with the fact that traditional SMEs show limited financial resources leads to following objective of this Master Thesis.
1.2. OBJECTIVE OF THE THESIS AND RESEARCH QUESTION

The objective of this Master Thesis is to answer following research question:

What methods and tools are suitable for the identification of internal potentials of competitive advantages in traditional SMEs and to what extent do these tools address global challenges?

In order to answer this research question, one main criterion is to clarify the definition of traditional SMEs, what global challenges are they facing and how internal potentials of competitive advantages can be detected. Hence, there exist several tools for the identification of internal potentials of competitive advantages within firms. With reference to traditional SMEs, it should be clarified how useful these tools are for this type of firms and if they can be applied.

1.3. STRUCTURE OF THE THESIS

For a better comprehension of the topic, a definition of SMEs will be given in chapter 2. Helfat et al. (2007, p. 1) state that due to globalization, it is crucial for companies to adapt their internal resources and capabilities to the changing environment in order to stay competitive in the long run. Therefore, main global key challenges of SMEs are discussed in chapter 3.

The first two chapters address the characteristics of traditional SMEs and global challenges they are facing. Due to the fact that this Master Thesis is about internal potentials of competitive advantages, the next chapter provides an overview of the resource-based perspective and its different views as discussed in the literature, namely the resource-based view, the competence-based view, the capability-based view, and the knowledge-based view.

The first section of this Master Thesis constitutes the basis for the selection of tools within the resource-based perspective. The selection is based on tools that are used for strategic analysis, more precisely, for the detection of internal potential of competitive advantages. For each of the theoretical views, two tools are selected. Each tool is described in more detail in order to show its purpose and procedure. A critical reflection provides the reader with information about potential disadvantages of the tools.
With reference to the characteristics of traditional SMEs that are discussed in chapter 2, following criteria provide information about what tools can be applied in traditional SMEs:

- Amount of financial resources
- Organizational effort
- Easy comprehensibility
- Answering global challenges

The evaluation of the suitability of the selected tools by these criteria sheds light on the required resources when applying them. For instance, how much money and time does a traditional small or medium sized firm need? How many employees are necessary in order to apply a certain tool? Do traditional SMEs need external consultants in the application of a certain tool and are they affordable? Moreover, it should be clarified if the tools deliver answers to global challenges. For instance, if the tools are static or dynamic regarding a firm’s external environment.

Finally, a comparison, as well as an overall conclusion of the selected tools will complete this Master Thesis. Figure 2 illustrates the structure of this Master Thesis.
## 1.4. METHODOLOGY

The methodology of this Master Thesis is based on a theoretical preparation and controversial discussion by literature research. Particularly, topics regarding resource-based view, competence-based view, capability-based view and knowledge-based view are at the center of the research, as well as characteristics of SMEs. Furthermore, global challenges SMEs are facing nowadays are part of the research. Moreover, following terms regarding the selected tools will be under observation:

- Grant’s framework for appraising resources and capabilities
- Value Chain Analysis
- VRIO Framework
- Core-competence portfolio
- Distinctive-capabilities framework
- Analytical Dynamic Capabilities Framework
- Generic Knowledge Framework and
- The spiral organization of knowledge creation

![Figure 2: Structure of the Master Thesis](source: own illustration)
Books and online databases like EBSCO, WISO, EZB and Google Scholar constitute the foundation for the literature research in order to guarantee the state of the art of the thesis.
2. CHARACTERISTICS OF TRADITIONAL SMEs

In this chapter, the term traditional SME are defined, as well as its quantitative characteristics like number of employees, financing etc., followed by qualitative characteristics like corporate management and organizational structures of traditional SMEs. For this reason, the author Pfohl (2006) was cited - amongst others - in order to show the main differences between traditional SMEs and large enterprises.

2.1. DEFINITION OF TRADITIONAL SMEs

Within the European Union 99 % of all enterprises are SMEs. Thus, this group of organizations is of great importance for the European economy (http://eeas.europa.eu/). When defining traditional SMEs, Pfohl (2006, p. 20) and Mugler (2008, p. 20) refer to the general definition from the European commission (http://ec.europa.eu), which is given in table 1. This definition serves as a basis for a clear differentiation of micro, small, and medium-sized companies regarding their staff headcount, turnover per year and balance sheet total per year. Due to the fact that most traditional SMEs are family owned (see table 2) they are often equated as family businesses within the European Union. Nevertheless, a family business could be also a large firm (http://europeanfamilybusiness.eu).

<table>
<thead>
<tr>
<th>Company category</th>
<th>Staff headcount</th>
<th>Turnover or</th>
<th>Balance sheet total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium-sized</td>
<td>&lt; 250</td>
<td>≤ € 50 m</td>
<td>≤ € 43 m</td>
</tr>
<tr>
<td>Small</td>
<td>&lt; 50</td>
<td>≤ € 10 m</td>
<td>≤ € 10 m</td>
</tr>
<tr>
<td>Micro</td>
<td>&lt; 10</td>
<td>≤ € 2 m</td>
<td>≤ € 2 m</td>
</tr>
</tbody>
</table>

Table 1: Definition of SMEs  
Source: http://ec.europa.eu

As one can see, the definition of traditional SMEs from the European Commission is defined by quantitative characteristics such as number of employees or turnover per year. In the next section, quantitative characteristics of traditional SMEs are discussed in more detail.
2.2. Quantitative Characteristics

In the course of this Master Thesis, it is reasonable to look at small and medium-sized enterprises as one group of firms and not separate them into micro, small and medium-sized enterprises. When discussing quantitative characteristics of traditional SMEs it is useful to compare it with large enterprises in order illustrate main differences between these two groups of firms. However, when it comes to quantitative characteristics of traditional SMEs one of the most outstanding features compared to large enterprises is financing. Main differences in financing between traditional SMEs and large companies – according to Pfohl (2006, p. 20) – are summarized in table 2.

<table>
<thead>
<tr>
<th></th>
<th>Traditional SMEs</th>
<th>Large enterprises</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family owned</td>
<td>No access to anonymous capital market, which leads to limited ways of funding</td>
<td>Unimpeded access to anonymous capital market, which leads to diverse ways of funding</td>
</tr>
<tr>
<td></td>
<td>No company-specific governmental support in crisis situation</td>
<td>Probable company-specific, governmental support in crisis situation</td>
</tr>
<tr>
<td></td>
<td>Hardly general governmental support in crisis situation</td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Differences in Financing
Source: own illustration based on Pfohl (2006, p. 20)

In behalf of the fact that traditional SMEs have no access to anonymous capital markets (Pfohl 2006, p. 20), Börner (2006, p. 303) argues that the most common way of funding for traditional SMEs is internal financing and bank loans. According to Schäfer (1998, p. 353 ff.), internal financing is the coverage of capital requirements from the company itself. Typical approaches to internal financing are financing through retained earnings, financing through the counter-value of the depreciation, and financing through allocations to provisions. However, the decision about the form of funding a traditional SME should use depends on three major impacts. These impacts are (1) characteristics of the individual who is making the decision, (2) external, environmental-related factors, and (3) internal, firm-related factors (Börner 2006, p. 324).
Another crucial point concerning quantitative characteristics of traditional SMEs is their volume of sales. The following table that is based on Pfohl (2006, p. 19) compares typical sales' characteristics of traditional SMEs with the one of large enterprises.

<table>
<thead>
<tr>
<th>Sales</th>
<th>Traditional SMEs</th>
<th>Large enterprises</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coverage of small-dimensioned personalized demand in a geographically and/or functional narrow market segment</td>
<td>Coverage of large-dimensioned demand in a geographically and/or functional broad market segment</td>
<td></td>
</tr>
<tr>
<td>Competitive position very inconsistent</td>
<td>Good competitive position</td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Differences in sales  
Source: own illustration based on Pfohl (2006, p. 19)

As stated in table 3, customers of traditional SMEs show small-dimensioned and personalized needs and are located in a geographically narrow market segment (Pfohl 2006, p. 19). Mok and Man (2009, p. 215) refer in their article to Porter's (1985, p. 11 ff.) generic strategies in which they argue that SMEs, which are pursuing a differentiation strategy are showing a better export performance. This means that these firms try to strengthen their competitive position through the adaptation of their products and prices to country-specific characteristics. However, Pfohl (2006, p. 19) argues that the competitive position of SMEs is inconsistent, which could arise from limited financial resources.

Besides the quantitative characteristics that were discussed so far in the course of this Master Thesis, the production processes of traditional SMEs compared to large enterprises is also an important characteristic. According to Pfohl (2006, p. 19), the production process within traditional SMEs is characterized by minor division of labour, is work-intensive and exhibits low economies of scale. Whereas, large organizations dispose of capital-intensive production processes, a high degree of division of labour and greater economies of scale.

### 2.3. Qualitative Characteristics

In the previous section, quantitative characteristics of traditional SMEs are discussed. In addition to that, qualitative characteristics are also of great importance in order to detect main differences between traditional SMEs and large enterprises. Therefore, the
following table sheds light on the corporate management of traditional SMEs and large corporations.

<table>
<thead>
<tr>
<th>Corporate management</th>
<th>Traditional SMEs</th>
<th>Large enterprises</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner = Manager</td>
<td>Owner ≠ Manager</td>
<td></td>
</tr>
<tr>
<td>Insufficient</td>
<td>Profound</td>
<td></td>
</tr>
<tr>
<td>corporate management</td>
<td>management skills</td>
<td></td>
</tr>
<tr>
<td>Technical-oriented</td>
<td>Good technical</td>
<td></td>
</tr>
<tr>
<td>education</td>
<td>knowledge in specialist departments and staff offices available</td>
<td></td>
</tr>
<tr>
<td>Insufficient</td>
<td>Developed formalized</td>
<td></td>
</tr>
<tr>
<td>information system to use existing flexibility advantages</td>
<td>information system</td>
<td></td>
</tr>
<tr>
<td>Paternalistic</td>
<td>Leadership according to management by principles</td>
<td></td>
</tr>
<tr>
<td>leadership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardly any group</td>
<td>Frequent group</td>
<td></td>
</tr>
<tr>
<td>decisions</td>
<td>decisions</td>
<td></td>
</tr>
<tr>
<td>Improvisation and</td>
<td>Improvisation and intuition is of little importance</td>
<td></td>
</tr>
<tr>
<td>intuition are of great importance</td>
<td>importance</td>
<td></td>
</tr>
<tr>
<td>Hardly any planning</td>
<td>Comprehensive planning</td>
<td></td>
</tr>
<tr>
<td>Overloaded through</td>
<td>Intense task-oriented division of labour</td>
<td></td>
</tr>
<tr>
<td>accumulation of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>functions; if division of labour then individual-related</td>
<td></td>
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</tr>
<tr>
<td>Immediate participation in business operations</td>
<td>Distance to business operations</td>
<td></td>
</tr>
<tr>
<td>Minor compensation</td>
<td>Good compensation possibilities in the case of wrong decisions</td>
<td></td>
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<tr>
<td>possibilities in the case of wrong decisions</td>
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<tr>
<td>Leadership potential irreplaceable</td>
<td>Leadership potential replaceable</td>
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</tr>
</tbody>
</table>

Table 4: Differences in corporate management
Source: own illustration based on Pfohl (2006, p. 18)

All these characteristics of traditional SMEs concerning corporate management, as shown in table 4, are influencing the strategic management of them. Special attention must be paid to the characteristic that there is hardly any planning in traditional SMEs, whereas large firms are characterized by comprehensive planning (Pfohl 2006, p. 18). The hathway management consulting group (2013) identified four broad reasons why many SMEs do not conduct strategic planning. According to them, the reasons are (1)
no desire for strategic planning because the owner does not want to get out of its comfort zone, (2) perception of irrelevance because traditional SMEs are operating in clear markets with little variation, followed by (3) a fear of change of departments and individuals due to the fear of losing power and becoming vulnerable when cooperating with other business areas and (4) starting barriers SMEs are facing when recognizing the need for strategic planning, so owners are unsure where to start (Hathway management consulting 2013, p. 6).

Besides the discussed characteristics of corporate management in traditional SMEs, the organization of such shows also many differences in comparison with large enterprises, as Pfahl (2006, p. 19) argues. The most interesting points concerning traditional SMEs are the strong connection of the owner(s) and employees to the organization, the low degree of formalization, and a low degree of division of labour. Furthermore, traditional SMEs show a single-line system that is orientated on the owner of the organization, whereas large firms show a complex organizational structure. Therefore, traditional SMEs exhibit hardly coordination problems and a high level of flexibility (Pfohl 2006, p. 19).

However, one attribute that is typical for traditional SMEs is the relationship between the organization and the owner as often discussed in the literature by e.g. Pfahl, Mugler or Neville. A study conducted by the Danish financial service company “Nykredit” in 2008 revealed that approximately 50 percent of the owners of traditional SMEs stated that control over the day-to-day business is much more important for them than firm growth (Nykredit 2008, as cited in 2011, p. 530). This result is strongly correlated with Pfahl’s (2006, p. 18) argument that traditional SMEs hardly make strategic plans, which was previously discussed.

Another qualitative characteristic of traditional SMEs, according to Mugler (2008, p. 25), is that this type of firms engage in a business network in order to communicate with customers, suppliers and other stakeholders important for a firm. Schütze (2009, p. 11) identifies four reasons why SMEs engage in business networks. (1) protection of the access to resources, (2) reduction of transaction costs, (3) efficient access to markets, and (4) learning and access to technologies. Further, Schütze (2009, p. 12) states that the motives for the engagement in networks depends on the size of a firm. Therefore, the following table gives an overview how the motives vary when looking at a micro, small, or medium-sized enterprise.
In addition to that, Ihlau and Duscha (2013, p. 6) identify other qualitative characteristics of SMEs in the realm of their business models, owners, financing, and information. With reference to business models, SMEs show a high dependence towards few customers, products, services and suppliers, and a less diversified, manageable business model. Characteristics concerning owners of SMEs have a strong influence and their often exist an overlap between the business and the private sphere. Concerning financing, the authors assert that SMEs have often no access to the capital markets, as mentioned by Pfohl (2006, p. 20) and therefore limited financing opportunities. Furthermore, SMEs exhibit a low equity ratio. Qualitative characteristics concerning the information management of SMEs, according to Ihlau and Duscha (2013, p. 6), is a simple accounting, limited sources of information, simple internal control, missing and not documented strategic planning. This argumentation correlates with Pfohl's (2006, p. 18) assumption that SMEs hardly conduct any strategic planning. The following table summarizes the qualitative characteristics of traditional SMEs according to Ihlau and Duscha.
This chapter gives information about quantitative, as well as qualitative characteristics of traditional SMEs that constitute the basis for the evaluation of the suitability of the tools within the resource-based perspective in chapter 5. The next chapter addresses the main global challenges traditional SMEs are facing nowadays. These challenges have also an influence when assessing the suitability of the selected tools.

<table>
<thead>
<tr>
<th>Business model</th>
<th>Owners</th>
<th>Financing</th>
<th>Information management</th>
</tr>
</thead>
<tbody>
<tr>
<td>High dependent on customers, suppliers, etc.</td>
<td>Strong influence on the business and employees</td>
<td>No access to capital market → limited fin. resources</td>
<td>Simple accounting and control mechanisms</td>
</tr>
<tr>
<td>Less diversified and manageable</td>
<td>Overlap between business and private sphere</td>
<td>Low equity ration</td>
<td>limited sources of information and no strategic planning</td>
</tr>
</tbody>
</table>

Table 6: Qualitative characteristics  
Source: own illustration
3. CHALLENGES OF GLOBALIZATION

Chapter 3 gives an overview of the development of globalization, as well as describing globalization drivers. Furthermore, main challenges of globalization for traditional SMEs are discussed like adaptation to global markets while dealing with limited funding, amongst others. Also, suitable internationalization strategies for SMEs are under debate.

3.1. THE DEVELOPMENT OF GLOBALIZATION AND ITS DRIVERS

According to Das (2010, p. 68), the contemporary phase of globalization began around 1980 where governments of developed and emerging countries started to foster liberal economic policy regimes that resulted in reduced trade barriers and a liberalisation of capital flows. In addition, global integration accelerated during the 1990s, which leads to the fact that both volume and value of global trade and financial transactions increased dramatically.

The famous professor George S. Yip (2012, p. 10 ff.) identifies four drivers of globalization within an industry. These four drivers are (1) market drivers due to the convergence of consumer preferences and an increasing establishment of world brands, (2) cost drivers concerning the continuing push for economies of scale and reduced transportation costs, followed by (3) competitive drivers that result in companies that are globally centred and finally (4) government drivers, which lead to a reduction in trade barriers and the development of trade unions like the EU, for instance.

Concerning governmental drivers, Macmillan (2008, i) states in her report that the reduction of trade barriers together with the advances in communication technology and global supply chains provide an opportunity for all companies, regardless of size, to act globally. However, she points out that the international experience of the owner of a SME is an important factor concerning globally integrated SMEs and that globalization is not an option for all SMEs. This leads to main challenges of globalization for traditional SMEs.

3.2. MAIN CHALLENGES OF GLOBALIZATION FOR TRADITIONAL SMEs

Helfat et al. (2007, p. 1) state in their book “Dynamic capabilities: Understanding strategic change in organizations” that markets become more and more global.
Therefore, it is crucial for organizations to adapt to and exploit changes in their external business environment. However, traditional SMEs are facing many obstacles when markets become more international. Kathleen Macmillan (2008, p. 6) argues that SMEs have limited financial resources by definition, as discussed in chapter 2, thus it is of great importance for them to utilize their scarce resources in a way that gain the most success. So, Macmillan’s argumentation is consistent with the assumptions of Pfohl (2006, p. 20) who states that one of the main differences between large firms and traditional SMEs lies in no access to the anonymous capital market, which leads to limited ways of funding. Furthermore, Macmillan (2008, p. 6) argues that the risks and costs associated with the process of internationalization are too high for many traditional SMEs.

Other obstacles - according to Macmillan (2008, p. 6, 9) - are lying in the range of products and services of traditional SMEs if they are not exportable or the export risk would be too high. However, if traditional SMEs would be interested in enter an international market they are facing challenges regarding identifying market opportunities and reliable business partners next to problems concerning obtaining suitable financing. Moreover, traditional SMEs that operating in global value chains cited that it is difficult to protect their intellectual assets, especially software because of their weak negotiation position they have in contrast to large enterprises that are often customers of traditional SMEs’ products and services (Macmillan 2008, p. 6, 9).

As discussed in chapter 2.3., the hathway management consulting group (2013, p. 6) identifies reasons why many traditional SMEs hardly conduct strategic planning in their businesses. The first argument they identified was that there is no desire from the owner side because he or she does not want to get out of his/her comfort zone. Macmillan (2008, p. 7) states in her report that another factor why traditional SMEs do not engage in international operations is the fact that some of them are not interested in expanding their customer base because they want to keep their business small and thus, the operations manageable. One can say that these arguments correlate with each other because some traditional SMEs does not want to become an international enterprise and want to keep businesses small and therefore the owner does not see any reasons for strategic planning.

Sui and Baum refer in their article to Hymer (1976 as cited in Sui/Baum 2014, p. 825) who argues that international operations result in increased costs that arise from
insufficient market knowledge, a negative country-of-origin image and cultural and institutional differences between the home and the host country, amongst others. Hymer’s assumptions are coherent with the one from Macmillan (2008, p. 6) who argues that traditional SMEs, which are interested in engaging in global markets, have problems with identifying market opportunities. In order to address these challenges, Sui and Baum (2014, p. 826) suggest that a traditional SME should make a use of its resource endowment to improve the chances of its survival. However, if a traditional SME decides to participate in a global market, so called slack resources makes international operations more feasible and less risky. According to George (2005, p. 663), such slack resources stabilize a firm’s operations by absorbing excess resources during growth periods and support the organization in times of distress. In other words, they act as a buffer against bankruptcy and other organizational risks and by doing so, slack resources ensure the viability of traditional SMEs and can influence the enactment of its strategies (Sui/Baum 2014, p. 826; George 2005, p. 662). In order to address challenges of globalization traditional SMEs have to reconfigure their resources to form new capabilities in a way that promise the most success for the organization (see Teece et al. 1997; Helfat et al. 2007; etc.). Furthermore, organizations with a larger endowment of slack resources have more freedom in reacting to strategies of competitors (George 2005, p. 662).

Furthermore, Sui and Baum (2014, p. 826) argue that a traditional SME needs human and financial resources when engaging in foreign markets and these resources are limited in traditional SMEs (see Pfohl 2006, Börner 2006, or Macmillan 2008). Further, the authors state that in contempt of the great importance of internal resources traditional SMEs possess, the impact of these resources is contingent upon the internationalization strategy pursued. This leads to the next section of this chapter.

3.3. INTERNATIONALIZATION STRATEGIES

Although Macmillan (2008, p. 13) states in her report that it is of great importance to recognize that engaging in international markets is neither practical nor desirable for all SMEs, some of them strive for becoming a global firm. According to Bamberger and Wrona (2006, p. 392, 394), internationalization of firms is a result of globalized markets and business operations. The motivation of traditional SMEs in engaging in global markets descends from developing and sustaining their competitive positions in both the domestic market and the foreign market. According to Namiki (1988, p. 32 ff.), the
Challenges of globalization

most common internationalization strategy for a traditional SME is exporting. Before
traditional SMEs are able to export their products and services, Macmillan (2008, p. 14)
suggests that firms should invest in maximizing their competitive position. Therefore,
the owner of a traditional SME should aggressively adopt new technologies, invest in
productive capital, become more open for shared control to gain new ways of funding

According to Oyson (2011, p. 101), traditional SMEs are facing four liabilities when they
strive for internationalization. These are (1) liability of smallness, (2) liability of
newness, (3) liability of foreignness, and (4) liability of outsider ship. The liability of
smallness deals with the fact that traditional SMEs have limited resources when
entering an international market compared with large enterprises. The liability of
newness when entering a new (global) market could lead to an increase in failure. The
third liability – liability of foreignness – deals with all additional costs when a traditional
SME is operating abroad. The last liability deals with the fact that due to their
foreignness international, traditional SMEs have a lack of network within the industry
that may be necessary for learning and communication that is important when firms
become global (Oyson 2011, p. 101 f.).

Nevertheless, many factors can hinder the export strategy traditional SMEs strive to
pursue, according to Bamberger and Wrona (2006, p. 397). Such factors are, for
instance, the non-recognition of product demand in foreign markets, trade barriers,
transportation and administration costs and cultural and linguistic differences between
the domestic and the host countries.

When determining, which export strategy a traditional SME should pursue, the specific
characteristics of the owner play an important role. Bamberger and Wrona (2006, p.
398) state that the owner of a traditional SME can be seen as a key variable regarding
internationalization of business activities. Further, the authors refer to Miesenböck
(1988 as cited in 2006, p. 398) who assumes that objective characteristics of the owner
are the amount of trips abroad, knowledge about foreign markets, foreign language
skills, and knowledge about different marketing techniques. These assumptions
confirm the special role of the owner in traditional SMEs, as discussed in chapter 2.3.
Moreover, entrepreneurs that are operating in global markets are more aggressive,
dynamic, flexible, creative and show more self-confidence than not exporters
(Bamberger/Wrona 2006, p. 398). Especially, flexibility is of great importance when
addressing challenges of globalization, as it is often discussed in the literature by Teece, Helfat and many others.

Other factors that are determining the choice of an entry strategy are – according to Macmillan (2008, p. 14) – the products and services an SME wants to export, the degree of after sales service that is needed and the adaptation to local customer needs. Therefore, Macmillan cites that large firms make a strategic plan in advance before entering a foreign market. Whereas, traditional SMEs tend to make their decision more ad hoc and often based on chance opportunities. In addition, other organizational strategies a traditional SME is pursuing next to the export strategy can have an influence on the export behaviour of the firm, according to Bamberger and Wrona (2006, p. 399). They argue that the level of a firm’s specialisation, so the specific niche, and the combination with other competitive strategies are of great importance regarding the export strategy. Furthermore, vertical integration and cooperation can also have an impact. At this point, it is crucial to mention that – according to Bamberger and Wrona (2006, p. 404 f.) – internationalization is affecting all levels of strategy building, organizational strategies, business strategies, and functional strategies.

Nevertheless, there exist many other entry strategies suitable for traditional SMEs. Macmillan cites in her report that there is evidence that SMEs, which engage in foreign direct investments (FDI) exhibit higher profits in global markets (Poisson 2002 as cited in Macmillan 2008, p. 14). However, this type of investment is beyond the investment capabilities of most traditional SMEs due to their lack of financial resources and managerial capability to conduct research and analyses necessary for FDIs. Bamberger and Worna (2006, p. 407) identify entry strategies for traditional SMEs without equity investment. These forms of entry strategies are franchising and licensing, which reduce political and economic risks, avoidance of entry barriers, faster and cheaper market introduction and usage of foreign market knowledge of local business partners.

However, according to Macmillan (2008, p. 14 f.), most traditional SMEs begin their international activities as exporters and when they have gained confidence and experience concerning the foreign market(s) they start to invest. They typically focus on one or two destination markets due to their limited resources. Smaller firms hardly
engage in investing activities. They start joint ventures or similar associations with local partners.

This chapter gives an overview of the main challenges traditional SMEs are facing nowadays due to globalization. Furthermore, international strategies are suggested when a traditional SME decides to become a global enterprise. However, due to the fact that this Master Thesis is about internal potentials of competitive advantages, the next chapter gives some implications about the resource-based perspective and its four different views.
4. **RESOURCE-BASED PERSPECTIVE**

This chapter discusses the four different views within the resource-based perspective. These are the resource-based view, the capability-based view, followed by the competence-based view and the knowledge-based view. Advocates of the resource-based perspective like Barney, Wernerfelt or Prahalad and Hamel assume that a sustainable competitive advantage derives from specific resources that a firm possess. Therefore, according to Reisinger/Gattringer/Strehl (2013, p. 70), the main idea of the resource-based perspective is to identify what resources and capabilities a firm need to have in order to gain a sustainable competitive advantage and how these resources and capabilities could be continually updated or replaced. Thus, the resource-based perspective focuses on the inside of an organization in order to detect potentials of competitive advantages, whereas the market-based perspective sees competitive advantages in industry factors outside a firm (Penrose 2009, p. 21; Müller-Stewens/Lechner 2011, p. 346).

4.1. **RESOURCE-BASED VIEW**

The famous economist Edith Penrose shed light on the inside of the firm for the first time in 1959. In her famous book “The theory of the growth of the firm” in which she argues that “[…] a firm is more than an administrative unit; it is also a collection of productive resources the disposal of which between different uses and over time is determined by administrative decisions” (Penrose 2009, p. 21). Welge/Al-Laham (2012, p. 87) argue that an organization is seen as a portfolio of unique, strategically relevant resources. Therefore, company-specific bundles of resources instead of external industry factors are the sources of the success or failure of an organization. So, the main idea of the RBV – according to Floyd/Wooldridge (2000, p. 80) – is that differences in companies’ success derive from different resource endowments they possess. In more concrete terms, the RBV addresses differences in the efficiency among resources. However, before the RBV is discussed in more detail, the definition and categories of resources are described.

4.1.1. **DEFINITION OF RESOURCES**

The definition of resources is phrased in relatively broad terms. Barney (2002, p. 155) defines resources as all assets, capabilities, competencies, knowledge, organizational processes, information etc. that enable a firm to conceptualize and implement
strategies in order to improve its efficiency and effectiveness. With reference to Al-Laham (2003, p. 113), resources are a company’s unique (idiosyncratic) resources and bundle of resources, which are directly connected with its strategy. Wernerfelt (1984, p. 172) refers in his definition of resources to strengths and weaknesses of a firm. He argues that a resource is anything that could be thought of as a strength or weakness of a particular firm. Furthermore, he gave examples like knowledge, brand names, or human capital, which leads to the next section of this chapter.

4.1.2. Categories of resources

When categorizing resources Penrose (2009, p. 21) refers to physical resources, such as plant, equipment or raw materials, whereas Barney (2002, p. 156) divides resources in financial, physical, human and organizational resources. Grant (2011, p. 127) extends this definition by technology and reputation of a firm. Figure 3 gives an overview of the different types of resources.

![Figure 3: Categories of resources](Source: own illustration based on Barney (2002, p. 156) and Grant (2011, p. 127))

4.1.3. Resource heterogeneity and resource immobility

With reference to Barney (2002, p. 155), there exist two main assumptions within the resource-based view, namely resource heterogeneity and resource immobility. The former one is based on Penrose’s (2009, p. 21) assumption that a firm can be seen as a bundle of productive resources and that different organizations own different bundles of resources. This phenomenon is called resource heterogeneity (Barney 2002, p. 155). Al-Laham (2003, p. 116) indicates that resource heterogeneity is the fundamental theory of the resource-based view. Furthermore, the author argues that due to
resource heterogeneity, organizations are able to realize Ricardian rents and monopoly rents, respectively.

The second assumption on which the RBV is based is – according to Barney (2002, p. 155) – the so called resource immobility. Proponents of the resource-based perspective like Barney (2002), Penrose (2009) or Wernerfelt (1984) argue that some of a company’s resources are very costly to copy or inelastic in supply. Al-Laham (2003, p. 118 f.) calls resource immobility imperfect mobility and he recommends firms to have a high level of imperfect mobility of their resource endowment. Furthermore, the author states that specific resources are not able to trade or limited in trading on factor markets. This is due to the fact that there exist no markets for specific resources. Such resources are, for instance, own developed production technologies, or firm-specific sales networks. As long as an organization has access to resources, which show a low level of mobility it is in a position to gain rents out of these resources, according to Al Laham. Therefore, the author draws out of this argumentation that a competitive advantage of a given firm will be stabilized due to the immobility of its resources.

So far, the two main assumptions – resource heterogeneity and resource immobility – and its impacts on the competitive advantage of firms was discussed. However, there exist another two impacts on competitive advantages, with reference to Al-Laham (2003, p. 115 ff.). Within the conceptual framework of the RBV, ex post limits to competition and ex ante limits of competition have also an impact on a firm’s competitive position. Figure 4 summarizes the four main assumptions of the resource-based view.
Besides the discussed basic assumptions of the RBV, Al-Laham (2003, p. 115 ff.) discerns another two basic assumptions within the conceptual framework of the RBV. The first assumption deals with ex ante limitations to competition. This assumption focuses on the cost and expenditures, respectively related with strategic competitive advantages. With reference to the author, resources lead only to sustainable competitive advantages when the resulted rents do not accelerate the costs of the acquisition of the resources (Al-Laham 2003, p. 119 f.). The fourth basic assumption of the RBV – according to the author – are the ex post limitations to competitions. These assumptions discuss two main approaches, namely imperfect substitutability and imperfect imitability. The former approach concerns about the limited substitutability of resources. Al-Laham (2003, p. 120) argues that the better the resource endowment of an organization is defended against substitutes of competitors, the higher is their strategic potential. Furthermore, the threat of substitute can arise from two sources. Firstly, competitors can try to gain long-term competitive advantages through the utilization and exploitation of resources in alternative ways. Secondly, the threat of substitution exists permanent when competitive advantages derive from technology-based resources due to the fast change in technology.

The second approach – imperfect imitability – deals with limited imitability of strategic relevant resources and bundle of resources, respectively, according to Al-Laham
(2003, p. 121). Lipman and Rumelt (1982, p. 418 ff.) argue that the imitability of resources by competitors is limited because of uncertainty factors and lack of knowledge. However, the ex-post and ex-ante limitations to competition are discussed in more detail within Barney’s VRIO framework.

### 4.1.4. Resource Position Barriers

Wernerfelt (1984, p. 173) discusses in his article that specific resources can lead to first mover advantages and therefore to resource position barriers. According to Wernerfelt, some companies possess resources that affect the costs and revenues of later acquirers adversely. This situation leads to the fact that the holder of this resource benefits from the protection of a resource position barrier. Moreover, resource position barriers can be compared with entry barriers in a market and industry, respectively. So, resource position barriers have the potential of high returns if a competitor will have an advantage from it. However, Wernerfelt (1984, p. 173) assumes that (1) if a company has entry barriers towards newcomers in market A and they share resources with market B, another firm that is strong in market B could gain cost advantages and therefore enter market A. (2) if the firm owns a resource position barrier in α that is used in market A, the firm might be able to survive a collapse of market A if it could use α in another market. In other words, Wernerfelt (1984, p. 173) concludes that an organization wants to create a resource position that is difficult for its competitors to catch up.

### 4.2. Capability-based View

The second view within the resource-based perspective is the capability-based view (CBV). According to Müller-Stewens/Lechner (2011, p. 348), the capability-based view is a continuation of the previously discussed resource-based view. Nevertheless, the main difference between the resource-based view and the capability-based view lies, according to Makadok (2001, p. 388), in the point of time when rents can be generated by firms. However, before main assumptions and differences of the CBV are discussed, it is of great importance to define the term capabilities.

#### 4.2.1. Definition of Capabilities

The definition of capabilities according to Hungenberg (2014, p. 149 f.), is the extent to which a corporation is able to exploit its coordinated and goal orientated resources.
Furthermore, he argues that capabilities find their expression in the organization of an enterprise, its processes and its leadership systems. According to Müller-Stewens/Lechner (2011, p. 349), a firm is only able to achieve rents by coordinating the use of its resources. Furthermore, they describe resources as the “construction material” used by capabilities in order to achieve rents. Makadok (2001, p. 389) defines capabilities as a special type of resource that is non-transferable, firm-specific and embedded in a specific organization. The purpose of capabilities – according to Makadok – is the improvement of the productivity of a firm’s other resources.

Teece et al. (1997, p. 515) associate capabilities with the key role of strategic management that lies in adapting, integrating, and reconfiguring internal and external organizational skills, resources and functional competencies in favour of addressing global challenges.

Amit and Shoemaker (1993, p. 37 ff.) indicate that the capability-based view sees capabilities as patterns of interaction, coordination, and problem solving. Thus, capabilities are connected with specific groups of resources and knowledge within a firm. Hence, the development process is protracted and capabilities cannot be transferred or sold because of the complex composition and organizational anchoring. This means that a competitor needs to pass through a similar time consuming process in order to receive outstanding capabilities. Furthermore, the authors assert that capabilities can be seen as intermediate goods, which enhance the productivity of a firm’s other resources (Amit/Schoemaker 1993, p. 35).

4.2.2. DIFFERENCES BETWEEN THE RBV AND THE CBV

When discussing differences between the resource-based view and the capability-based view, Makadok (2001, p. 388) states that the main difference between these two views lies in the point of time when organizations are able to gain economic rents. Makadok argues that the generation of Ricardian rents takes place before the acquisition of specific resources. Corresponding to this argumentation, corporations with high developed resource-picking skills have a substantial advantage in order to detect the most profitable resources. This leads to further differences between the resource-based view and the capability-based view. In his article, Makadok defines two distinct mechanism – resource-picking and capability-building. The former deals with the previously discussed Ricardian rents that companies generate when discern profitable resources. So, these rents are generated because a particular firm is more
effective in picking resources than its competitors. In this mechanism managers gather information that will be analysed in order to outsource the resource market.

The second mechanism, according to Makadok (2001, p. 389), deals with the design and construction of organizational processes and systems to enhance the productivity of the acquired resources. Therefore, the author asserts that an organization will gain economic rents out of capabilities after resources are acquired. So, Makadok concludes that resource-picking affects the decision phase, whereas capability-building has an impact on the implementation phase. However, firms can only be profitable if they obtain the resources necessary to improve the productivity of these resources by its capabilities.

Makadok (2001, p. 393 ff.) discusses corporate benefits out of the two mechanisms, resource-picking and capability-building. When it comes to the question how capability advantages affect expected profits of an organization, the author bases his assumption on Amit and Schoemaker's (1993, p. 35) definition of capabilities. As already discussed in the previous section, Amit/Schoeemaker define capabilities as intermediate goods that enhance the productivity of other resources. Makadok (2001, p. 394) assumes that the value of a capability increases in proportion to the quantity of a firm’s other resources upon which the capability has an impact.

Based on the discussed differences between the resource-based view and the capability-based view, Müller-Stewens/Lechner (2011, p. 350) argue that the main assumption of the CBV refers also to heterogeneity with the difference that this heterogeneity refers not to resources – as it is the case at the RBV – but to different, firm-specific capabilities. Furthermore, the authors assume that differences in companies’ success derive from differences in its capabilities, which lead to differences in the efficiency of its resources. The authors conclude that attributes of resources of a given enterprise are not of such a great importance because the main purpose of the CBV is the question how these resources can always be reconfigured and combined in favour of gaining value for a company.

4.2.3. DISTINCTIVE CAPABILITIES

The famous economist John Kay defined in his book “Foundations of corporate success” the term distinctive capabilities. According to Kay (1995, p. 13), capabilities are distinctive only if they derive from a specific characteristic that other firms lack.
Moreover, he argues that it is also necessary that these capabilities must be appropriable and sustainable, so that they persist over time. Kay assumes that a capability is appropriable only if it is exclusively profitable for the organization that owns the capability. However, according to Kay (1995, p. 14), there only exist few sources from which distinctive capabilities can emerge.

Kay (1995, p. 14) asserts that there are three main sources of distinctive capabilities. These sources are innovation, architecture, and reputation. The former source of distinctive capabilities innovation – is less often a sustainable or appropriable source of distinctive capabilities due to imitations of successful innovations by competitors. The second source, architecture, is a system of relationships within an organization or its suppliers and/or customers. If a firm shows a distinctive architecture, it gains strength through the ability to transfer information, according to Kay. Moreover, the author argues that an enterprise, which has a distinctive architecture, is able to respond quickly to changes within an industry. When it comes to the last source of distinctive capabilities – reputation of a firm – Kay states that one understands it as a type of architecture, which is so widespread and of such a great importance that organizations should treat it as a distinctive source of competitive advantage. Moreover, Kay (1995, p. 14) asserts that reputation has the essential conditions for sustainability of a distinctive capability.

This leads to the question how distinctive capabilities become competitive advantages. Kay states that distinctive capabilities lead only to competitive advantages if they are applied in an industry and brought to a market. Furthermore, he assumes that in some cases the choice of a market derives from the nature of a specific distinctive capability. When a distinctive capability derives from innovation, it will usually suggest its own market. Moreover, - according to Kay (1995, p. 14) - there are actually no geographically boundaries to innovation. Nevertheless, it is crucial for a company to identify the appropriate market for a specific product precisely. If a distinctive capability is based on architecture, the advantages of this capability can be exploited in a wide range of industries and markets, with reference to Kay. In contrast, organizational benefits out of reputation are created in specific markets. This is due to the fact that a reputation relates necessarily to a product or a group of products. Thus, Kay (1995, p. 14 f.) assumes that this distinctive capability is also bounded geographically in most cases. However, some global companies like Coca Cola or Sony have established world-wide brands and reputation.
4.2.4. **The idea of dynamic capabilities**

In answering the fundamental question how companies achieve and sustain competitive advantages, Teece et al. (1997, p. 509) develop the dynamic capability approach. Moreover, the authors also focus their attention to the question how and why certain firms build competitive advantages in a rapidly changing business environment. Teece et al. address the rapidly changing environment by dynamic capabilities. The aim of the dynamic capability approach is to identify the dimensions of firm-specific capabilities that can lead to competitive advantages, and how combinations of resources can be developed, exploited and protected (Teece et al. 1997, p. 510).

They state that the notion “dynamic” refers to a corporation’s capacity to renew resources and competencies in order to achieve accordance with the changing business environment (Teece et al. 1997, p. 515). Teece et al. (1997, p. 516) define dynamic capabilities as “[…] the firm’s ability to integrate, build, and reconfigure internal and external competences […].” The main target is the continually adaptation to the changing external business environment. The authors suggest that this approach can be seen as a guideline for strategic management of a firm about how to gain competitive advantages in increasingly demanding environments (Teece et al. 1997, p. 515 f.).

Nevertheless, Teece et al. (1997, p. 515) refer also to the difficult problems firms are facing when identifying difficult-to-imitate internal and external competencies that support products and services of high value. Therefore, the authors suggest to follow a certain trajectory or path when developing competencies at any given point of time. This leads to opportunities for an organization and – that is of greater importance – to boundaries that identify internal resources and capabilities for the future.

4.3. **Competence-based view**

With reference to Krüger/Homp (1997, p. 25), the main task of management is the viability of the company and the successful development and maintenance of its competitiveness. Therefore, the authors argue that a considerable amount of flexibility and adaptability is necessary in order to reach this objective. Krüger and Homp assume that the competence-based view is the basis for sustainable competitive advantages that derive from improved products and services of firms due to core competencies. Moreover, the transfer of resources and capabilities to new products
and/or markets can lead to an enlargement of competitive advantages in new fields, according to Krüger and Homp (1997).

### 4.3.1. Definition of Core Competencies

Krüger and Homp (1997, p. 27) state that core competencies are based on resources and capabilities and can be seen as a sustainable, transferable source of competitive advantages. Furthermore, the authors argue that core competencies foster a company to concentrate on the essentials of business and thus, they can be seen as drivers of organizational values (Krüger/Homp 1997, p. 25). In order to clarify Krüger and Homp’s definition, the layer model of competencies, also called “competence onion”, is used that is illustrated by Figure 5.

![Layer model of competencies](source: own illustration based on Krüger/Homp (1997, p. 27))

According to Krüger and Homp (1997, p. 26), the initial situation of this model is that just a few companies have core competencies. So, it is a lavish process to gain and sustain core competencies. With reference to the authors, core competencies are situated in the inner layer and the core, respectively of a three-layered firm competence. Thus, Krüger and Homp state – in a metaphorical way – that it is of great importance for firms to penetrate into the core of the “competence onion”. When referring to Krüger and Homp firms have competencies of first order when they develop and combine their resources and capabilities in a way that these competencies are
competitive. Core competencies must be recognized by customers in order to enable an organization to sustain and survive in the long-run (Krüger/Homp 1997, p. 26).

If a company reaches a certain advance in contrast to its competitors, so to say a competitive advantage, it must have special resources and capabilities available in order to hold the competitive position in the market over long-term. Krüger and Homp (1997, p. 26) argue that the sum of these special competencies are competencies of second order. When it comes to competencies of third order, or core competencies, the authors assert that one should use the term core competencies only if a company is able to use its resources and capabilities to develop new products and/or markets. Only when this transferability is given, a firm has core competencies or, competencies of third order.

According to Hungenberg (2014, p. 150), a resource or a capability is a core competence if it is of strategic importance and if the corporation is superior over its competitors due to that resource or capability. The former condition refers to the value of a specific resource or capability that leads to competitive advantages. However, Hungenberg assumes that a resource or capability is only valuable when it is rare and hard to imitate. Furthermore, a firm has a superior position over its competitors when its resource and/or capability endowment is better than the competitors’ one, either in a quantitative or qualitative way.

Al-Laham (2003, p. 150) assumes that the main idea of the competence-based view is less about the resource endowment of organizations it is rather about internal, organizational competencies, which will be used to create value for an organization. Prahalad and Hamel were one of the first authors that used the term core competencies in the literature in the field of strategic management (Welge/Al-Laham 2012, p. 102). The next section of this chapter gives an overview of their famous article.

4.3.2. The Roots of Competitive Advantage

Prahald and Hamel had coined the definition of core competencies at the beginning of the 1990s (Hungenberg 2014, p. 150). They state in their famous article "The core competence of the corporation" that competitiveness derives from a firm's ability to build, at lower costs and more speedily than its competitors, the core competencies that generate unforeseen products in the long run (Prahalad/Hamel 1990, p. 81).
Moreover, the authors describe a corporation like a large tree, where the trunk and major limbs are the core products, and the branches business units. The leaves, flowers, and fruits constitute the end products and the roots are seen as core competencies that provide nourishment and stability. In other words, Prahalad and Hamel (1990, p. 82) indicate that core competencies can be seen as the collective learning in an organization, particularly the coordination of production skills and streams of technologies. Figure 6 reveals the interrelation between core competencies, core products, and business units.

When it comes to special characteristics of core competencies, Prahalad and Hamel (1990, p. 82) argue that core competencies do not decline when they are used in difference to physical resources. Physical resources deteriorate over time, whereas core competencies enhance due to its application and sharing. Furthermore, the authors state that the protection and nourishment of core competencies are of crucial importance for firms in order to stay competitive. Prahalad and Hamel point out that core competencies can be seen as a glue that binds existing businesses, and as an engine that leads to new business developments.

In the course of Prahald and Hamel’s (1990, p. 83 f.) article “The core competence of the corporation” they also give some indications how core competencies can be detected within a company. According to the authors, there exist three main characteristics of core competencies. (1) a core competence provides access to a wide
variety of markets. For instance, if a firm has core competencies in display systems, it could enter markets like calculators, monitors for notebooks or computers and so on. (2) core competencies should have a significant contribution to the perceived customer benefit of the end products. And (3) a core competence should be difficult to imitate by competitors. The last point is strongly correlated with the assumptions of Barney’s VRIO framework that will be discussed in the next section of this chapter.

However, Prahalad and Hamel (1990, p. 89) point out that it is important to establish a corporate architecture in favour of developing objectives for building core competencies. This argumentation is connected with Kay’s (1995, p. 14) assumption that one source of distinctive capabilities is the architecture of an organization. Prahalad and Hamel (1990, p. 89) define a strategic architecture as a road map that identifies which core competencies should be build, and therefore which specific technologies are needed. Moreover, this architecture should make the allocation of resources more transparent within the whole organization. The strategic architecture should serve as a template for senior managers and, at the same time, it should help lower level managers to understand the logic of allocation priorities of the senior managers. Moreover, other advantages of strategic architecture – with reference to Prahalad and Hamel – are that it creates a managerial culture, team work, a capacity for change and a willingness to share resources. Moreover, the most important advantage is the protection of skills and long-term thinking. Therefore, it is hard for competitors to imitate the strategic architecture of a specific company, according to Prahalad and Hamel. In addition, it can be applied as a tool for communicating with customers and other external stakeholders (Prahalad/Hamel 1990, p. 89).

4.3.3. IDENTIFICATION OF CORE COMPETENCIES

In the realm of the identification of core competencies, it emerges the risk that firms tend to assign all resources and capabilities to core competencies, with reference to Welge/Al-Laham. In order to detect real core competencies of an organization, the authors refer to Barney’s (2002) VRIO framework that constitutes a good approach for the identification of core competencies (Welge/Al-Laham 2012, p. 386). However, the VRIO framework is discussed in more detail in chapter 5. Thus, there are only given the basic assumptions of this famous tool in this chapter.

The acronym “VRIO” stands for the four questions value, rarity, imitability, and organization (Barney 2002, p. 159 f.). The first question deals with the fact if a firm’s
resources and capabilities enable it to respond to environmental threats and opportunities. The second one – the question of rarity - focuses on resources that are currently controlled by only a small number of competing firms. The third question gives information about the potential of imitability of resources. In concrete terms, it means if firms that have a lack concerning a specific resource will face a cost disadvantage in obtaining or developing it. The last question – the question of organization – is about a firm’s ability to exploit the valuable, rare, and costly to imitate resources. In more detail, the question is if a company’s policies and procedures are organized to support the exploitation of that specific resources (Barney 2002, p. 160).

With reference to Welge/Al-Laham (2012, p. 389), resources and capabilities are only core competencies if all of the four questions can be answered with yes, which leads to a sustainable competitive advantage. Moreover, with reference to Barney (2002, p. 174), the VRIO framework provides also implications about a firm’s strength and weaknesses. However, the implications of this framework are discussed in the next chapter.

Krüger and Homp (1997, p. 29 ff.) indicate that core competencies can also be detected within the value chain of a specific firm. The authors’ argumentation is based on their assumption that competitive advantages must be recognized by customers. These competitive advantages however, are based on the upstream core competencies or in other words on specific resources, capabilities and routines through the whole value creation process. However, the interrelation between core competencies and the value creation process is discussed in chapter 5 in more detail.

4.4. KNOWLEDGE-BASED VIEW

According to Floyd and Wooldridge (2000, p. 79 ff.), the knowledge-based view (KBV) is based on the resource-based view, though it starts from a different premise. Within the resource-based view knowledge is a non-material resource that is equivalent to other resources of a firm that may lead to competitive advantages. Whereas, the knowledge-based view assumes that knowledge is the criterion, which is crucial for achieving competitive advantages and thus, critical for a company’s success. According to Floyd and Wooldridge (2000, p. 81), knowledge is no longer seen as a bunch of resources or capabilities, rather it is seen as a social organization in which individuals interact with each other based on individual beliefs, shared ideologies or
shared interpretations. So, the organization becomes a “body of knowledge” (Floyd/Wooldridge 2000, p. 81).

**4.4.1. Definition of Knowledge**

There exist many definitions of the term knowledge in the literature. However, Spender (1996, p. 47) argues that all kinds of knowledge are the result of a systematic, scientific analysis of our sensory experiences of a knowable external reality. Al-Laham (2003, p. 25) identifies three main characteristics of knowledge. (1) Knowledge as entirety of the problem solving potential of the knowledge carrier, (2) knowledge as process and aware application of information, respectively and (3) knowledge as a result of learning processes. Further, proponents of the knowledge-based view assume that a company’s success derives from the efficiencies in the creation, transfer and integration of organizational knowledge (Floy/Wooldridge 2000, p. 81).

The famous Japanese authors Nonaka and Takeuchi (1995, p. 59) state that only individuals create knowledge. Therefore, an organization is not able to create knowledge without individuals. Consequently, the authors argue that organizational knowledge creation can be understood as a process that strengthens the knowledge created by individuals. This knowledge is then part of the knowledge network of the organization, with reference to Nonaka and Takeuchi. So, this process is only possible with a lot of interaction among a firm’s employees across intra- and inter-organizational levels and boundaries of a company (Nonaka/Takeuchi 1995, p. 59).

**4.4.2. Categories of Knowledge**

Nonaka and Takeuchi (1995, p. 59 f.) distinguish between two main types of knowledge, namely tactic and explicit knowledge. The former type is characterised by personality of an individual, is context-specific and consequently hard to formalize and communicate. Whereas, explicit knowledge is transferable in a formal and systematic way or language. Furthermore, individuals acquire knowledge from their own experiences. The following table shows the main differences between tactic and explicit knowledge (Nonaka/Takeuchi 1995, p. 59 f.).
Resource-based perspective

<table>
<thead>
<tr>
<th>Tactic Knowledge (Subjective)</th>
<th>Explicit Knowledge (Objective)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of experience (body)</td>
<td>Knowledge of rationality (mind)</td>
</tr>
<tr>
<td>Simultaneous knowledge (here and now)</td>
<td>Sequential knowledge (there and then)</td>
</tr>
<tr>
<td>Analog knowledge (practice)</td>
<td>Digital knowledge (theory)</td>
</tr>
</tbody>
</table>

Table 7: Types of knowledge  
Source: own illustration based on Nonaka/Takeuchi (1995, p. 61)

As Table 7 reveals, the knowledge out of experiences can be categorized as tactic and subjective and is created in the here and now, while knowledge that derives from rationality is explicit and objective and is created in the past (there and then) (Nonaka/Takeuchi 1995, p. 60 f.).

However, Nonaka and Takeuchi (1995, p. 62 ff.) create a knowledge conversation model, also called spiral of knowledge creation. This model describes how tactic and explicit knowledge can be converted in different ways. In the course of this Master Thesis, this model will be discussed in more detail in chapter 5.

Within the realm of knowledge categories, there are different types of organizational knowledge, next to tactic and explicit knowledge, with reference to Franken and Gadatsch (2002, p. 6ff.). According to the authors, there exist four main types of knowledge within an organization. (1) The first type of organizational knowledge is called structural knowledge or formal knowledge. Franken and Gadatsch (2002, p. 7) assume that examples for this type of knowledge are databases, card record system, completed forms or account books.

With reference to Franken and Gadatsch (2002, p. 7), the second type of organizational knowledge is (2) the unstructured, formalized knowledge. Examples of this type of knowledge are documents, drafts, pictures and much more. The users of unstructured knowledge are able to associate certain structures based on their contextual knowledge. In order to describe it more clearly, an employee can immediately assign an incoming invoice by its sender, the bank account number and...
the purpose on what the invoice is based. The next kind of organizational knowledge is (3) personal knowledge. As the name indicates, it is bound on individuals, so to say on the employees of a company. Franken and Gadatsch (2002, p. 7) state that it is not available and noticeable at the first glance. Therefore, it can only be transferred by communication and imitation. On the other hand, (4) collective knowledge or organizational knowledge, in the narrow sense, is a recognized and accepted form of knowledge that is shared by all members of a firm, with reference to Franken and Gadatsch. It is also called cultural knowledge. Further, there exist coordinated knowledge within the collective knowledge, which is not completely available for all organizational members, but it determines organizational acting. Examples for this kind of knowledge are processes within an organization that are not formally captured (Franken/Gadatsch 2002, p. 7).

4.4.3. **COMBINATIVE CAPABILITIES**

Kogut and Zander (1992, p. 385) introduce the concept of “combinative capabilities”, which means that a combination of internal (reorganizing, experiments) and external learning (acquisition, new people) leads to technological opportunities, and thus, to market opportunities. The idea behind this concept – according to the authors - is that if organizational knowledge has consequences on the competitiveness of a firm, it cannot be seen independently of current capabilities. Thus, combinative capabilities combine and apply current and acquired knowledge. In order to generate new knowledge, Kogut and Zander (1992, p. 384) suggest to have a different look at the boundaries of an organization. Companies invest in assets that are conform with a combination of its current capabilities and expectations regarding future opportunities (Kogut/Zander 1992, p. 385). Figure 7 gives an overview of the idea of combinative capabilities.
In order to explain the concept of combinative capabilities, Kogut and Zander (1992, p. 385) try to describe it with an example of a make-or-buy decision of firm. When analysing the knowledge of the firm, Kogut and Zander distinguish between information (regarding prices) and know-how (regarding divisionalization). So, the authors assert that this concept is about the question how internal and external learning influence the recombination of knowledge. When developing new skills a limitation lies in the organization and technologies for further exploitation of current capabilities, with reference to Kogut and Zander. Whereas, if a given technology or way of organizing is unprofitable, developing new skills becomes more preferable.

Kogut and Zander (1992, p. 385) conclude that “[…] the knowledge of the firm must be understood as socially constructed, or, more simply stated, as resting in the organizing of human resources.” Moreover, the authors state further that the creation, replication, and imitation of technology leads to capabilities that are based on a firm’s internal resources and therefore, they are difficult to imitate. With this argumentation, Kogut and Zander refer to the proponents of the resource-based perspective like Wernerfelt (1984), Prahalad and Hamel (1990) or Barney (2002).

Also, Grant (1996, p. 375) asserts that knowledge is the most important strategic resource and it resides in specialized form among individual organizational members. Therefore, he concludes that the essence of a firm’s capability lies in the integration of
this individual knowledge. Grant (1996, p. 379) describes mechanisms for knowledge integration in a company. He points out that the integration of explicit knowledge implicates just a few problems for an organization due to its inherent communicability. When integrating tactic knowledge, Grant states that there are two main integration mechanisms – direction and organizational routines. Grant refers to Demsetz (1991, p. 172) who identifies direction as means for knowledge communication at low costs between specialists and other employees in an organization. He suggests that it is of great importance to create manuals in order to communicate tactic knowledge as efficient as possible. So, Grant (1996, p. 379) concludes that direction is about codifying tactic knowledge into explicit rules and instructions.

The second mechanism when integrating tactic knowledge is – according to Grant (1996, p. 379) – organizational routines. He points out that a firm obtains a mechanism for coordinating the integration of knowledge by organizational routines. The main purpose is that members of an organization should develop their own sequential patterns of interaction that allows the integration of their specialized knowledge without the need for communication. Moreover, Grant (1996, p. 380) identifies three factors that are important for efficient knowledge integration. (1) The efficiency of integration, (2) the scope of integration, and (3) the flexibility of integration.

4.5. CRITICISM OF THE RESOURCE-BASED PERSPECTIVE

Despite the discussed purpose and assumptions of the resource-based perspective by its advocates like Penrose (1959), Wernerfelt (1984), or Prahalad and Hamel (1990) amongst others, there exist some criticism. According to Kraaijenbrink et al. (2010, p. 350), criticism should be seen as a way to detect limitations and thus, leads to improvements of the resource-based perspective. Therefore, the authors identify categories of critiques.

With reference to Kraaijenbrink et al. (2010, p. 351), the first critique states that the resource-based perspective has no managerial implications. As suggested by Barney (2002, p. 159 ff.), firms should invest in valuable, rare, inimitable resources that organizations are able to exploit in order to gain sustainable competitive advantages. Miller (2003, p. 963) identifies in his research that firms do not invest in resources suggested by Barney, but rather they build on resource asymmetries. Miller states that these asymmetries are inimitable differences between a given firm and its competitors.
that are in no way valuable for these competitors in their current state or position, respectively. Such asymmetries could have the form of team projects, business units, or knowledge, according to Miller.

Another critique is that the application of the resource-based perspective is too limited. Connor (2002, p. 312) states that the application of the resource-based perspective is only appropriate for large firms and not for small and medium-sized enterprises. This argument is based on the fact that SME’s do not have the market power, which is necessary to gain sustainable competitive advantages, according to Connor. This argument is strongly correlated with the research question of this Master Thesis, whether specific tools of the resource-based perspective are suitable for SMEs or not. However, Kraaijenbrink et al. (2010, p. 353) identify another point of criticism within the realm of the RBV’s application. The resource-based perspective gives only suggestions how to gain sustainable competitive advantages as described by its proponents like Barney (2002), Teece et al. (1997) or Prahalad and Hamel (1990), but no suggestions for companies that are satisfied with their current competitive position. This leads to the next critique.

With reference to Fiol (2001, p. 692), sustainable competitive advantages are not achievable for companies. He argues that the resources of a company and its usage must constantly change, according to the dynamic of the external environment in favour of achieving temporary competitive advantages. Thus, Kraaijenbrink et al. (2010, p. 354) argue that competitive advantages do not last forever, but they are of great strategic importance in the short term. Therefore, the authors refer to the static approach of the resource-based perspective.

Moreover, Kraaijenbrink et al. criticize also the assumptions of the VRIO framework. They argue that this framework is neither necessary nor sufficient for the explanation of how to gain sustainable competitive advantages. Therefore, the authors state that it is not sufficient to possess just resources. In order to gain sustainable competitive advantages firms have to deploy such resources. So, they have to have deployment capabilities, with reference to Kraaijenbrink et al. However, when it comes to the question how this capability deployment should work, the resource-based perspective shows a lack of an answer (Kraaijenbrink et al 2010, p. 355). The authors assert further that sustainable competitive advantages derive from characteristics of individuals and teams. However, the authors also point out that if resources are valuable for
organizations, these resources require firm-specific adjustments by individuals. However, Kraaijenbrink et al. (2010, p. 356) summarize that all a firm needs is a bundle of resources, and the capability to recognize and exploit opportunities implied by these resources most efficiently. Other factors of the VRIO framework are just additional benefits. However, criticism about the VRIO framework is discussed in more detail in the evaluation of the tool in chapter 5.

The last point of criticism, with reference to Kraaijenbrink et al. (2010, p. 359), is that the resource-based perspective does not explain how different types of resources contribute in a different manner to a company’s sustainable competitive advantage. Though there is a categorization of different types of resource within the RBV, it gives no implication about how to treat each of the resource categories. So, the RBV treats all different types of resources the same way.
4.6. Comparison of the Tools Within the Resource-Based Perspective

In this chapter, the four different views within the resource-based perspective are compared. Table 8 gives an overview of the main characteristics of each view.

<table>
<thead>
<tr>
<th></th>
<th>RBV</th>
<th>CBV</th>
<th>Comp. BV</th>
<th>KBV</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proponents</strong></td>
<td>Penrose, Wernerfelt, Barney</td>
<td>Penrose, Amit and Schoemaker, Teece</td>
<td>Prahald/Hamel, Barney, Krüger/Homp</td>
<td>Nonaka/Takeuchi, Grant, Kogut/Zander</td>
</tr>
<tr>
<td><strong>Perception of the firm</strong></td>
<td>Firms are a collection of productive resources</td>
<td>Firms are bundles of capabilities based on spec. resources</td>
<td>Main task of management: viability of the firm and maintenance of competitiveness</td>
<td>Firms become a &quot;body of knowledge&quot;</td>
</tr>
<tr>
<td><strong>Unit of analysis</strong></td>
<td>Resources</td>
<td>Capabilities</td>
<td>Core competencies</td>
<td>Knowledge</td>
</tr>
<tr>
<td><strong>Source of competitive advantage</strong></td>
<td>Heterogeneity, imperfect mobility ex post limits of competition, ex ante limit of competition</td>
<td>Capability to use a firms resources in the most efficient way</td>
<td>Improved products and services due to core competencies</td>
<td>Firm specific knowledge and how a company deals with it</td>
</tr>
<tr>
<td><strong>Mechanism of gaining rents</strong></td>
<td>Foreseeing selection of undervalued resources</td>
<td>Accumulation of capabilities through internal processes</td>
<td>Valuable, rare, costly to imitate resources a company is able to exploit</td>
<td>Creation, transfer and use of knowledge</td>
</tr>
<tr>
<td><strong>Point of time when gaining rents</strong></td>
<td>Static, before the acquisition of resources</td>
<td>Processual, during the development of capabilities</td>
<td>Processual, during the development of core competencies</td>
<td>Processual, during the development of org. knowledge</td>
</tr>
<tr>
<td><strong>Criticism</strong></td>
<td>• RBP has no managerial implications: firms do not invest in resources suggested by Barney, they build resource asymmetries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Application is too limited: RBP only appropriable for large firms, SMEs do not have the market power</td>
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</tr>
<tr>
<td></td>
<td>• RBP gives no implications for firms that are satisfied with their comp. position</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Sustainable comp. adv. are not achievable because resources must change according to the dynamic environment</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Table 8: Comparison of the views

This chapter gives an idea about the main assumptions of the resource-based perspective and its views, as well as some points of criticism. The next chapter describes tools within this perspective in order to answer the research question what tools are suitable for the identification of competitive advantages in traditional SMEs and to what extent do they address global challenges.
5. TOOLS FOR THE IDENTIFICATION OF INTERNAL POTENTIALS OF COMPETITIVE ADVANTAGES

In this chapter, tools within the resource-based perspective are analysed in order to generate information about their application in traditional SMEs, as well as their potential to answer global challenges traditional SMEs are facing. The selection of the tools is based on the four views within the resource-based perspective, namely the resource-based view, the capability-based view, followed by the competence-based view and the knowledge-based view. In the realm of this Master Thesis, classical tools within the strategic management like Barney’s VRIO framework or the value-chain analysis from Porter are selected, as well as tools that seem interesting for this Master Thesis. In order to not exceed the frame of this Thesis, two tools are selected for each of the views. The following figure gives information about how the tools are linked to each of the views.

In the course of this Master Thesis, each of the eight tools is described in order to provide the reader with an idea of the tools’ purpose. Further, the procedure of each tool is explained, followed by an evaluation of its suitability for traditional SMEs.
Especially, the suitability of the tools is of great importance for this Master Thesis in order to answer the research question. The bases for the evaluation of the suitability are the characteristics of traditional SMEs, as discussed in chapter 2. Furthermore, it should be assessed to what extent the tools address global challenges traditional SMEs are facing. With reference to the discussed characteristics of traditional SMEs in chapter 2, the suitability of the selected tools are evaluated based on the following criteria.

- **Amount of financial resources:** How much money is needed in order to apply the tool must effectively and efficiently?

- **Organizational effort:** How much effort requires the tool within a traditional SME? How many employees are necessary? How much time does the application take? Is it necessary to instruct external consultants?

- **Easy comprehensibility:** Do the owner and employees of a traditional SME have enough skills and knowledge to conduct the tool?

- **Answering global challenges:** Does the tool provide answers or implications to global challenges traditional SMEs are facing? Is the tool static or dynamic?

The evaluation of the criteria is based on a scale that reaches from 0 to 5 that is expressed by stars. So the maximum amount by which a criterion can be assessed is five, the lowest is zero. The average score of the four evaluation criteria leads to the suitability of a tool. The following list gives an overview of the scale and its meaning.
5.1. **Grant’s Framework for the Appraisal of Resources and Capabilities**

Floyd and Wooldridge (2000, p. 80) assert that differences in a company’s success derive from differences in its resources. Therefore, Grant (2011, p. 135) developed a tool for appraising the profit earning potential of resources and capabilities. Therefore, he argues that a firm’s profit that derives from its resources and capabilities is depending on three factors. These factors are the development and sustainability of competitive advantages, and appropriate returns of competitive advantages.

5.1.1. **Description**

When assessing the profitability of a firm’s resources and capabilities, Grant (2011, p. 135) states that it depends on three main factors. First, a company has to establish a competitive advantage, followed by the sustainability of it. The third factor – appropriating the returns to competitive advantage – is about the question who gains the return out of specific resources and capabilities. Each of the factors depends on the other hand on various characteristics of resources. Figure 9 reveals the relationship between the three factors and the resource characteristics.
When referring to Grant (2011, p. 135), two conditions must be present in order to establish competitive advantages, as figure 9 shows. These conditions and resource characteristics, respectively are scarcity and relevance. The former characteristic – scarcity – deals with the fact that if a resource or capability is widely available on the market, a firm will probably need it in order to compete, but this resource or capability is not sufficient to build a competitive advantage. In other words, if a resource or capability is not scare, it is needed to play, but not sufficient to win. The second condition – relevance – indicates that a resource or capability must be relevant for a company’s key success factors in a particular market (Grant 2011, p. 136).

The second factor when appraising resources and capabilities is the sustainability of a competitive advantage, as Grant (2011, p. 137) states. How long a competitive advantage can be sustained depends on three resource characteristics, namely durability, transferability, and replicability, as shown in figure 9. The first characteristic, durability, means that some resources and capabilities are more durable than others. So, they are a more protected basis for competitive advantages. Grant argues that because of the fast changing environment the life span of many resources and capabilities decreases and thus, also its durability. When moving on to the second characteristic – the transferability of resources and capabilities – Grant defines it as the extent to which resources and capabilities are movable between organizations. Resources with a high level of transferability are for instance financial resources or raw
tools for the identification of internal potentials of competitive advantages

- Materials: Where resources and capabilities show high immobility if they are geographically immobile, the buyer does not have enough information and when it is about organizational capabilities due to their connection with a specific company.

- The last characteristic that has an influence on the sustainability of competitive advantages is replicability. Grant (2011, p. 137) argues that if a firm is not able to buy a specific resource that is necessary for a sustainable competitive advantage, it has to build it. Capabilities based on complex organizational routines are difficult to imitate by competitors and thus, lead to sustainability of competitive advantages.

- The last factor in the realm of the assessment of resources and capabilities is – according to Grant (2011, p. 138) – appropriating the returns to competitive advantages. He states that the ownership of a resource or capability is not always clear. Capabilities depend heavily on the skills and efforts of employees of a firm and therefore, they can be seen as a source of competitive advantages. Thus, the mobility of key employees is a permanent threat companies are facing. However, the deeper individual skills and knowledge are embedded in organizational routines and the more they depend on organizational systems, the weaker an employee’s position to the firm and vice versa (Grant 2011, p. 139).

**5.1.2. Procedure**

The first section of this chapter describes the main idea behind the framework about appraising resources and capabilities. Grant (2011, p. 139) developed a step-by-step approach in order to put the previously described framework into practice. The first step when appraising resources and capabilities is to identify key resources and capabilities. In favour of the identification of key resources and capabilities, Grant suggests to start with an external view towards the industry of a given company. The main question is why some firms are more successful in an industry than others and therefore, on what resources and capabilities these success factors are based. Such success factors could be for instance manufacturing capabilities, product development capabilities or brand strength. However, to organize these factors Grant (2011, p. 140) recommends to take an inside view towards value chains of competitors. This implies the identification of various activities from purchasing e.g. raw materials to the final product. However, the value-chain analysis is explained in more detail in the next section of this chapter.
The second step, with reference to Grant (2011, p. 140), is the appraising of resources and capabilities according to two key criteria, importance and relative strength. When assessing the importance of resources and capabilities it is crucial to look beyond customer choice criteria, especially on the underlying resources and capabilities. The assessment of the strength of resources and capabilities requires both an inside and outside look at the organization. Firstly, managers should look inside a company by having internal discussions where consensus can be build regarding a resource and capability profile. In addition, the firm’s history can play an important role because times of success and failure can be detected and this could probably show patterns (Grant 2011, p. 142). Secondly, benchmarking should be used in order to measure a firm’s performance with its competitors. It is a useful framework in order to identify particular functions and processes within the own firm that are compared with competitors in order to detect differences. When bringing together the importance and strength of resources and capabilities, key strength and weaknesses of a company can be identified, as table 9 shows (Grant 2011, p. 143).

![Table 9: Appraising resources and capabilities](image)

<table>
<thead>
<tr>
<th>Relative Strength</th>
<th>Strategic Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Superfluous strengths</td>
</tr>
<tr>
<td>5</td>
<td>Zone of Irrelevance</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

The next step, according to Grant (2011, p. 144), is the development of strategy implications. This means that a given firm will formulate its strategy in a way that its key strengths can be exploited most effectively, while at the same time its weaknesses should be reduced or eliminated. Finally, the following table gives an overview of Grant’s framework about the assessment of resources and capabilities.
### Tool: Grant's framework for the appraisal of resources and capabilities

**Author(s) (Year):** Grant (1991, 2011)

**Purpose:** Appraising resources and capabilities in order to detect key strengths and weaknesses and formulating a competitive strategy

**Basis of competitive advantage:** Resources and capabilities

**Dimensions:**
- Establishing competitive advantage
- Sustaining competitive advantage
- Appropriating the returns to competitive advantage

Table 10: Overview appraisal of resources and capabilities
Source: own illustration

#### 5.1.3. **Critical Reflection**

After the description and procedure of Grant’s framework for the appraisal of resources and capabilities, this section should shed light on criticism of this tool.

Rashidirad et al. (2015, p. 657) give some information about the application of Grant’s framework for appraising resources and capabilities in the internet-driven e-business environment in their article. Despite the argument of Rashidirad et al. that Grant’s framework is more flexible and generalizable than other frameworks within the resource-based perspective like Porter’s value-chain analysis or Barney’s VRIO framework, it does not provide sufficient knowledge about the application on the internet-based e-business market. So, the framework lacks in addressing today’s business environment that is characterized by complexity, dynamics and uncertainty. Therefore, it has become easier for competitors to copy and adapt business models. The question – according to Rashidirad et al. (2015, p. 660) – is how the framework for appraisal resources and capabilities assists the management of organizations in order to stay competitive. The authors conclude that Grant’s framework serves as a basis to answer this question, but due to the lack of reacting to global challenges, they suggest that managers should make a use of dynamic capabilities (Rashidirad et al. 2015, p. 661).

However, a framework in order to detect dynamic capabilities is explained in more detail in the course of this Master Thesis. Rashidirad et al. (2015, p. 666) summarize
three points of criticism. (1) the framework underestimates dynamic capabilities and their impact on strategy formulation, (2) oversimplifying key relationships between resources and strategy and (3) undermining the process of strategy formulation of a network of interrelated components.

When it comes to the sustainability of competitive advantage, Armstrong and Shimizu (2007, p. 968 f.) argue that only four out of more than 6,700 firms achieved sustainable competitive advantages that lasted more than 20 years. Furthermore, the authors state that it is rather difficult to define the term sustainability. In other words, how long a sustainable competitive advantage actually lasts in terms of length or degree. Nevertheless, sustainability of competitive advantages depends strongly on the industry in which a given firm operates (Armstrong/Shimizu 2007, p. 969).

5.1.4. SUITABILITY

As discussed in chapter 2, for many traditional SMEs limited financial resources is a serious problem. Therefore, it seems that the framework for the appraisal of resources and capabilities requires a high level of financial resources. This is due to the fact that its procedure is quite time-consuming as previously discussed. If a traditional SME wants to use this tool in an efficient way, it has to pass all three steps – from identifying key resources and capabilities, followed by appraising these resources and capabilities to the development of strategy implications. Especially the second step – assessing the relative strength of resources and capabilities – seems to demand many financial resources due to market research and benchmarking. This leads to the fact that it looks as if the application of Grant’s framework requires a lot of effort within an organization. Moreover, external market researcher and business consultants are needed, which are very costly.

Concerning the comprehensibility of the framework, it seems that a manager of a firm needs to have profound corporate management skills. Whereas, many owners of traditional SMEs show insufficient management skills as discussed in chapter 2. Thus, it seems quite difficult for the owner of a traditional SME to conduct this framework in a proper way.

The last and most interesting point in the course of this evaluation is the question if Grant’s framework delivers answers for global challenges that are discussed in chapter 3. As it is mentioned in the critical reflection, it delivers no answers or implications
about how a firm can address current global challenges. So, it looks as if this framework is quite static.

Based on this evaluation it can be concluded that this tool seems not suitable for the application in traditional SMEs. This is due to the fact that it requires a high level of financial resources, high organizational effort and profound management skills. Furthermore, it seems that the tool does not deliver any implications or answers for global challenges. Table 11 gives an overview of the evaluation of the tool.

<table>
<thead>
<tr>
<th>Amount of financial resources</th>
<th>Effort</th>
<th>Easy comprehensibility</th>
<th>Answering global challenges</th>
<th>Suitability</th>
</tr>
</thead>
<tbody>
<tr>
<td>★</td>
<td>★</td>
<td>★★</td>
<td>★☆</td>
<td>★</td>
</tr>
</tbody>
</table>

Table 11: Evaluation of Grant’s framework for the appraisal of resources and capabilities
Source: own illustration

5.2. VALUE-CHAIN ANALYSIS

Porter (1985, p. 33) states in his famous book “Competitive advantage – creating and sustaining superior performance” that one should not look at a company as a whole in order to identify competitive advantages. In his opinion, it is important to disaggregate an organization into its strategic relevant activities to detect cost and/or differentiation advantages.

5.2.1. DESCRIPTION

When dividing a company by its activities e.g. from purchasing raw materials to distribution of products and after-sale service, competitive advantages can be revealed, with reference to Porter (1985, p. 33 f.). Further, he points out that a firm is only able to achieve competitive advantages when it performs these activities more cheaply and better than its competitors.

Figure 10 gives an example of the value chain of a typical production facility. As one can see, a firm is a collection of various activities that design, produce, market, and sell its products or services. Furthermore, it reflects the history and strategy of a firm and the underlying economies of the activities, according to Porter. He assumes that differences among companies’ value chains reflect key sources of competitive advantages (Porter 1985, p. 36).
As Figure 10 shows, the value chain consists of value activities, which are distinctive physical and technological activities a firm performs to produce its products, and of margin that is defined as the difference between total value and overall cost due to the execution of these activities. As one can see, value activities of a firm can be divided into primary activities and support activities. The former are activities that are involved in the physical creation of a firm’s products, its distribution, and after-sale services. Whereas, support activities, as the name suggests, support the primary activities by the procurement of raw materials, necessary technology, or skilled employees. The infrastructure of a given firm supports the entire value chain. Therefore, Porter (1985) concludes that value activities can be understood as the building blocks of competitive advantage (Porter 1985, p. 38). Furthermore, the performance of each activity reveals if a firm is high or low cost orientated and how the products contribute to the buyers’ needs, the so-called differentiation. When comparing value chains among competitors, the differences expose competitive advantages (Porter 1985, p. 38 f.).

According to Porter (1985, p. 40), each of the value activities may be crucial for competitive advantages. However, when determining what activities are vital for competitive advantages, it depends on the industry of an organization. For instance, for a distributor inbound and outbound activities are most critical for competitive advantages, whereas service providers like restaurants or retailers do not have outbound logistics and concentrate on business operations to gain competitive advantages.
As discussed in chapter 4 (see p. 36), core competencies can also be detected within the value chain of a firm, according to Krüger and Homp (1997, p. 29 f.). The authors state further that competitive advantages have to be recognized by customers. Therefore, they have to be visible in the result of the value creation process in terms of product quality, or a good after-sales service for instance. The sources of these competitive advantages lie within the value activities of a firm's value chain, so within its resources and capabilities. In order to achieve competitive advantages, a firm has to gain an advantage in its input (e.g. premium raw materials) and/or throughput (e.g. production technologies) and in external linkages (e.g. just-in-time delivery), respectively. Figure 11 shows the integration of core competencies in the value chain of a given firm.

![Figure 11: Integration of core competencies in the value chain](image)

Source: own illustration based on Krüger/Homp (1997, p. 32)

As figure 11 shows, core competencies are the underlying base of value activities that further leads to competitive advantages. In other words, the source of competitive advantages lies in a firm's core competencies, thus in its resources and capabilities (Krüger/Homp 1997, p. 29 f.). So, everything a company does should be captured in its value chain (Porter 1985, p. 48). This leads to the next section of this chapter in which it should be clarified how competitive advantages can be detected by the value-chain analysis.
5.2.2. **PROCEDURE**

With reference to Kerth et al. (2015, p. 81), an important basic precondition in order to conduct the value-chain analysis is a detailed knowledge about the value creation process in a firm. The most challenging part within the realm of the application is the acquisition of data from competitors, especially internal data. However, the first step when applying the value-chain analysis is the illustration of the business model. As mentioned by Porter (1985, p. 48), it is of great importance to integrate all activities that are relevant for the value creation process and capture them systematically. In order to do so, Kerth et al. (2015, p. 81) recommend starting with primary value activities, followed by secondary activities. Secondary activities can be identified by answering the question what contributes to smooth operations of the primary activities.

The second step focuses on the cost position of the value activities (Kerth et al. 2015, p. 81). With reference to Porter, the analysis of the cost position is based on cost allocation according to the value activities and the identification of cost drivers of particular positions that should be compared with the competitor’s cost position. Furthermore, it is crucial to formulate an estimation of the future cost development (Porter 2014, p. 97; 2015, p. 82).

The next step in the course of the application of the value-chain analysis is the identification of potentials in differentiation of each value activity (Kerth et al. 2015, p. 82). Therefore, customer preferences need to be identified to get information about criteria that are crucial for the purchase of the company’s products or services. The prioritization of these criteria leads to a performance portfolio of the firm, which can be compared with competitors. Afterwards, differentiation opportunities can be analysed in order to improve customer benefits. This reveals also if a company put too little resources in customer value creation or not (Kerth et al. 2015, p. 82).

Analysing a company’s technology could also reveal cost saving potentials in the production process or differentiation opportunities across the value chain. However, the next step in the application is the clarification of value activities critical for success. The previously described steps are combined and each value activity will be compared with the other activities. By doing so, the most important value activities that are critical for a company’s success are revealed (Kerth et al. 2015, p. 82 f.). The following table gives an overview of the main assumptions of the value-chain analysis.
5.2.3. **Critical Reflection**

Besides numerous advantages of the value-chain analysis like the complete illustration of organizational processes that can be also used for other business analytics and the comprehensive identification of competitive advantages, there exist also some critique and disadvantages, respectively. Kerth et al. (2015, p. 84) state that the illustration of the value-chain analysis in a complex, diversified organization is quite complex and requires a lot of effort from the management. Furthermore, the acquisition of data from competitors can be challenging.

When looking at a value chain of an international SME, Oyson (2011, p. 103) states that these type of firms often engage in foreign purchasing. However, his study does not investigate the internationalization of the full value chain of a traditional SME. So, according to Oyson (2011, p. 103), a framework that comprehensively examines the internationalization potential of a firm’s value activities is missing. This argument leads to the next point of criticism.

Gould and Desjardins (2015, p. 310) assert in their article that due to the fact that Porter’s value-chain analysis was conceptualized in the 1980s it is not well adapted to a globalized, digitalized world. Therefore, the authors extend Porter's framework by a third dimension next to cost leadership and differentiation, called complexity, because of extended and more globalized customer preferences due to innovations. For instance, one does not need necessarily a camera to take pictures because it is also possible with smart phones nowadays. On the one hand, a company is now able to serve customer needs on a global basis due to globalization, but on the other hand, it
requires investments in new technologies and innovations in order to sustain the competitive position. So, companies face completely new challenges (Gould and Desjardins 2015, p. 315). That is why Gould and Desjardins (2015, p. 319 f.) insert a third axis – complexity – in Porter’s framework. The authors argue that a firm should avoid starting a war of complexity with its competitors in an industry because the business becomes even more complex and unfathomable.

### 5.2.4. Suitability

Based on its procedure, it seems that the application of Porter’s value-chain analysis requires a relatively low level of financial resources. This is because companies, even traditional SMEs, normally have already illustrated their production processes. As mentioned in chapter 2, many owners of traditional SMEs do not possess profound management skills, so if they have to illustrate the value creation process of the firm, it seems that profound management skills are not compulsory necessary. It is sufficient if the owner knows the daily business in detail.

When it comes to the second step in the procedure of the value-chain analysis, the cost allocation, it is difficult for an owner of a traditional SME to get some information about the costs of competitors, as stated in the previous section of this chapter. The only value of reference could be the owner’s experience and knowledge about the industry e.g. prices of raw materials, wages, etc. Also, the conduction of market research when identifying customer preferences is time consuming and costly for traditional SMEs. The costs can be reduced if the firm would do the market research without an external market researcher. However, this would require more effort and more expertise of the owner of a traditional SME.

The level of the easy comprehensibility of the value-chain analysis seems rather high because competitive advantages should be identified by the illustration of the production process. So, there are no further complex tools or frameworks necessary.

However, the greatest disadvantage of the value-chain analysis is that it does not provide answers for global challenges traditional SMEs are facing, as discussed in the critical reflection. So, it looks as if the tool is rather static for analysing competitive advantages.
Based on this evaluation, it can be concluded that this tool seems quite suitable for the identification of internal potentials of competitive advantages in traditional SMEs, but it is associated with some effort, especially knowledge about a specific industry. Table 13 gives an overview of the evaluation of the value-chain analysis.

<table>
<thead>
<tr>
<th>Amount of financial resources</th>
<th>Effort</th>
<th>Easy comprehensibility</th>
<th>Answering global challenges</th>
<th>Suitability</th>
</tr>
</thead>
<tbody>
<tr>
<td>★★★</td>
<td>★★★★</td>
<td>★★★★★</td>
<td>★</td>
<td>★★★</td>
</tr>
</tbody>
</table>

Table 13: Evaluation of the value-chain analysis
Source: own illustration

5.3. DISTINCTIVE CAPABILITY FRAMEWORK

Amit/Schoemaker (1993, p. 33 ff.) indicate that the capability-based view sees capabilities as patterns of interaction, coordination, and problem solving. They assume that capabilities are connected with specific groups of resources and knowledge within a firm. According to Kay (1995, p. 13), a capability can only be distinctive, if it arise from characteristics that other firms lack, like it is discussed in chapter 4. In order to detect such distinctive capabilities, Kay developed a framework that consists of three sources of distinctive capabilities, namely architecture, reputation, and innovation (Kay 1995, p. 16).

5.3.1. DESCRIPTION

The first source of distinctive capabilities, according to Kay (1995, p. 66), is the architecture of a firm. Kay describes it as a network of contracts or relationships within or around an organization. There exist three different types of architecture, namely internal and external architecture, and networks. Relationships among employees are called internal architecture, whereas relationships with customers or suppliers refer to external architecture. When a group of firms is engaging in related activities, Kay (1995, p. 66) calls it networks.

The value of the architecture depends on an organization’s capacity to create organizational knowledge and routines in order to respond quickly to changes within an industry on the one hand, and to facilitate exchanges of knowledge on the other hand. Therefore, Kay (1995, p. 66) argues that “[...] such structures can only be created, and protected from imitation, in a framework of relational contracts.” So, architecture depends on a company’s ability to sustain long-term relationships.
When discussing the structure of relationships in traditional SMEs, Kay (1995, p. 68) argues that the specialized knowledge, traditional SMEs often possess, can lead to sustainable competitive advantages. This distinctive capability derives from relationships that hardly can be written down or copied by competitors due to its complexity (Kay 1995, p. 68 f.).

The second source of distinctive capabilities is reputation, which is the most important commercial tool for transmitting particular information to customers, according to Kay (1995, p. 87). The ways in which customers find their information about product characteristics and quality are different among markets. The importance of reputation is the greatest in markets where reputation can only be identified through a long-term experience of a specific product. In such markets, the development of reputation is very costly, but once a company achieved it, it can be a substantial source of competitive advantage. Further, Kay (1995, p. 88) asserts that reputation needs a name customers can associate with like strong brand names for instance.

Nowadays, a company’s online reputation plays an important role regarding the purchasing behaviour of the society. Especially, social media websites change the way people communicate and make decisions (Shad Manaman et al. 2016, p. 94). The authors refer in their article to He et al. (2013, p. 464) who state that companies use social media to increase customer loyalty and retention, increase their sales and revenues, and increase brand awareness and customer satisfaction. So, companies are using social media websites to gain value for themselves (He et al. 2013, p. 464). Furthermore, firms can make a use of social media in order to identify needs of their customers and thus, develop new products and services in order to strengthen their competitive position in a market (He et al. 2013, p. 464 f.).

However, customers find out information about the quality of certain products also in other ways, with reference to Kay (1995, p. 89). For instance, by comparing product specifications with alternatives or by word of mouth. The opinion of friends and relatives plays also an important role in the purchasing behaviour of the society.

When building reputation, it is important to mention that it is based on the continually provision of high quality. In markets for long-term experienced goods like cars, or household appliances reputation is, on the one hand of great value and, on the other hand it take a long time until it is established (Kay 1995, p. 93).
The last source of distinctive capabilities – with reference to Kay (1995, p. 101) – is innovation. This source is strongly connected with the previously described architecture of a firm. Either companies have established an architecture that foster a continuous innovation process, or have created an architecture that implement innovation particularly effectively. However, creating and sustaining competitive advantages based on innovation is difficult. Kay (1995, p. 102) states that this is due to three categories. (1) innovation is characterized by high costs and a high level of uncertainty by nature. This means that even a technically successful innovation may not be always profitable. (2) the management of the innovation process is difficult because innovation processes require qualified employees with special knowledge and skills, and (3) the returns of innovation are difficult to appropriate because it has to be defended from competitors. Moreover, innovation is based on the skills of employees and thus, its return accrues to groups within organizations and not to the organization itself (Kay 1995, p. 102).

With reference to Kay (1995, p. 105), firm-specific innovations derive from available knowledge or technology within a given firm. However, a company is only able to gain sustainable competitive advantages, when it creates an architecture for the systematic implementation of technology in advance of, or more cheaply than its competitors. Figure 12 gives an overview of the discussed sources of distinctive capabilities according to Kay.
5.3.2. Procedure

Distinctive capabilities are only able to gain sustainable competitive advantages, when they are applied at a specific market, as discussed in chapter 4. Kay (1995, p. 127) assumes that for each distinctive capability exists a market or a group of markets, in which the firm who owns it can gain sustainable competitive advantages. So, for distinctive capabilities that are based on reputation or architecture, the demand of consumers indicates the market, whereas for distinctive capabilities that are based on innovation, the technical characteristics of the products determine a certain market.

According to Kay (1995, p. 129), companies can only achieve competitive advantages, when they are able to apply their distinctive capabilities in their core markets. These distinctive capabilities can be related to the markets, the industries, or the strategic groups, in which firms compete.

When determining, in which markets a firm should compete, Kay (1995, p. 132) suggests to enter many different markets. He assumes that the boundaries of a given firm are determined by the selected markets, whereas the boundaries of an industry are determined by the markets similar firms selected. The overall objective of a firm should be the maximization of its competitive advantage. In order to do so, an organization should focus on the nature of its distinctive capabilities, so if they are based on reputation, innovation or architecture (Kay 1995, p. 132). Table 14 gives an overview of the bases of choosing markets and market positions.

<table>
<thead>
<tr>
<th>Basis of distinctive capability</th>
<th>Basis of choosing market and market position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reputation</td>
<td>Reputation is created in a specific market. Add related markets if consumers think you can transfer attributes, and you know you can. Usually implies up-market position.</td>
</tr>
<tr>
<td>Architecture</td>
<td>The nature of relationships – internal, external, network – or their result – flexible response, organizational knowledge – often dictates market and position. Otherwise, seek mid-market.</td>
</tr>
</tbody>
</table>

Table 14: Distinctive capabilities and market positioning
Source: own illustration based on Kay (1995, p. 137)
After discussing the purpose and procedure of Kay’s distinctive capabilities framework, the following table summarizes this framework.

<table>
<thead>
<tr>
<th>Tool: Author(s) (Year):</th>
<th>Distinctive capability framework Kay (1995)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose:</td>
<td>Identification of distinctive capabilities in order to find an appropriate market position and maximize competitive advantages</td>
</tr>
<tr>
<td>Basis of competitive advantage:</td>
<td>Capabilities of firms</td>
</tr>
<tr>
<td>Dimensions:</td>
<td>Three main sources of distinctive capabilities:</td>
</tr>
<tr>
<td></td>
<td>• Architecture</td>
</tr>
<tr>
<td></td>
<td>• Reputation</td>
</tr>
<tr>
<td></td>
<td>• Innovation</td>
</tr>
</tbody>
</table>

Table 15: Overview of the distinctive capabilities framework
Source: own illustration

5.3.3. CRITICAL REFLECTION

As discussed, Kay assumes that distinctive capabilities originate from the three sources innovation, reputation, and architecture. Whereas, Hitt and Ireland argue that an organization’s performance depends on the seven general functional areas administration, production, R&D, marketing, finance, personnel, and public relations (Hitt/Ireland 1985, p. 274 ff.). Song et al. (2008, p. 6) argue in their article that their exist four distinctive organizational capabilities, namely technology, market-linking, marketing and IT.

According to the authors, technology capabilities like financial management, cost control, technology development, and logistics enable a firm to produce its products at low cost and, at the same time, differentiate its offerings in order to increase customer satisfaction. In order to detect current customer needs, market-linking capabilities should be applied to exploit potential external possibilities (Song et al. 2008, p. 8). When a firm identified present customer needs, marketing capabilities are used for the segmentation, targeting, pricing, and advertising of its products. Therefore, a company’s IT capabilities diffuse these market information effectively that new products can be developed that are conform with customer needs (Song et al. 2008, p. 8 f.).
5.3.4. SUITABILITY

When creating a corporate architecture, Kay states that this architecture is only valuable if it creates organizational knowledge and routines. If this tool is applied in a traditional SME, it seems that it requires profound management skills about how knowledge can be created and secure within a firm. As it is discussed in chapter 2, most of traditional SMEs show insufficient management skills. In order to solve this problem, external consultants may be necessary in order to apply this tool efficiently. This, on the other hand, requires a high level of financial resources. Furthermore, many traditional SMEs show a low degree of formalization, which leads to unformulated organizational routines. Due to the strong commitment of the owner in the daily business, it seems not necessary to formulize business processes and so forth because this would require more time and thus, financial resources than personal communication.

Building reputation of traditional SMEs depends heavily on the word of mouth. As described in chapter 2, traditional SMEs are operating in a functional and geographically narrow market segment. This leads to the fact that a company’s positive and negative performance will be easily communicated among (potential) customers in this narrow market segment. In addition, online reputation via social media websites like Facebook etc. represents a suitable way for building and sustaining the reputation of traditional SMEs. The handling does not demand special knowledge from the owner or employees.

When it comes to the question in which markets a firm should compete, Kay suggests to enter many different ones in order to maximize competitive advantages. However, one characteristic of traditional SMEs is their narrow market segment in which they compete. So, it looks as if the application of Kay’s distinctive capability framework could be difficult for traditional SMEs.

Nevertheless, the framework addresses global challenges due to the special focus on innovation. However, the most critical point is the fact that it does not provide a clear procedure of its application. Kay gives no information about how a firm can create distinctive capabilities. For instance, he states that companies should create an architecture that enables knowledge sharing and foster innovation, but he does not describe how this architecture can be created or what resources are necessary.
Therefore, it seems that its application requires expertise in strategic management, as well as a high level of effort. Table 16 gives an overview of the evaluation of the tool.

<table>
<thead>
<tr>
<th>Amount of financial resources</th>
<th>Effort</th>
<th>Easy comprehensibility</th>
<th>Answering global challenges</th>
<th>Suitability</th>
</tr>
</thead>
<tbody>
<tr>
<td>✭✭</td>
<td>✭✭✭✭</td>
<td>✭✭✭✭✭</td>
<td>✭✭✭✭✭</td>
<td>✭✭✭✭</td>
</tr>
</tbody>
</table>

Table 16: Evaluation of the distinctive capability framework
Source: own illustration

5.4. ANALYTICAL DYNAMIC CAPABILITIES FRAMEWORK

Hungenberg (2014, p. 149 f.) defines capabilities as the extent to which a corporation is able to exploit its coordinated and goal orientated resources. Based on this assumption, Teece developed the analytical dynamic capabilities framework. With reference to Teece et al. (1997, p. 510), the purpose of the analytical dynamic capabilities framework is the identification of firm-specific capabilities that can lead to competitive advantages, as discussed in chapter 4. The framework addresses the fast changing business environment by a corporation’s capacity to renew resources and competencies. That is why the authors call it dynamic capabilities. Teece et al. (1997, p. 516) define it as the firm’s capability to integrate, build, and reconfigure internal and external competencies in order to gain sustainable competitive advantages.

5.4.1. DESCRIPTION

Teece (2007, p. 1319) asserts that the ownership of difficult-to-imitate intangible assets like knowledge, is not sufficient for a sustainable competitive advantage. In his opinion, difficult-to-imitate dynamic capabilities are the key for sustainable competitive advantages. Therefore, dynamic capabilities can be dispersed in the capacity to (1) sense and shape opportunities and threats, (2) to seize opportunities, and (3) to manage threats and reconfiguration. The competitive position of a firm should be maintained by enhancing, combing, protecting, and reconfiguring of tangible and intangible assets. So, dynamic capabilities enable a company to adapt to changing customer and technology opportunities. Furthermore, these capabilities foster the development of new products and processes, and the design and implementation of valuable business models (Teece 2007, p. 1319 f.). Figure 13 provides an overview of the analytical dynamic capabilities framework.
Teece (2007, p. 1320) identifies four characteristics of the business environment, in which distinctive capabilities are of great importance. The first characteristic of a company’s environment is openness to international trade and the presence of opportunities and threats due to rapid technological change. The second characteristic of the environment is the technical change itself where multiple inventions are combined to create products and services that satisfy customer needs. The next characteristic is the presence of well-developed global markets for the exchange of goods and services, and the fourth characteristic of the environment are poorly-developed markets for the exchange of technological and managerial know-how (Teece 2007, p. 1320). According to Teece (2007, p. 1320), a company’s success depends on the identification and development of opportunities, an effectively combination of internal and external inventions, and an efficient and effective technology transfer within a company and among companies. Further, protection of intellectual assets, as well as protection against imitation by rivals are critical for success (Teece 2007, p. 1320).

5.4.2. Procedure

The analytical distinctive capabilities framework by Teece consists of three different parts, as discussed previously. These parts are sensing and shaping opportunities and
threats, seizing opportunities, and managing threats and reconfiguration. With reference to Teece (2007, p. 1322), sensing and shaping of opportunities and threats involve scanning, creating, and learning activities of an organization. Investment in research activities is of imperative necessity. Opportunities can be detected by two factors. First, Teece (2007, p. 1322) refers to Kirzner (1973, p. 228) who states that organizations can have different access to information. Second, new information and knowledge can create opportunities. When a company wants to identify and shape opportunities, is has to scan, search, and explore local and global technologies and markets on a regular basis (Teece 1973, p. 1322). This does not only require investments in R&D, but also in identifying customer needs and technological possibilities, with reference to Teece (2007, p. 1322). The creation or identification of opportunities by individuals within an organization requires both access to information and the capability to recognize, sense, and shape developments. This, on the other hand, requires specific knowledge and the capability to understand customer decision making and practical wisdom (Teece 2007, p. 1323).

Due to the engagement in R&D, technological opportunities emerge in an industry. The combination of these technological opportunities with the simultaneously studying of customer needs, lead to broad commercialisation opportunities firms are facing. Thus, managing a narrow search horizon can be quite challenging and costly for the management of firms in order to solve problems. Therefore, Teece (2007, p. 1322) argues that firm should be aware not to become a prisoner of own assumptions, information filters, or problem-solving strategies.

When firms detect opportunities, managers have to figure out how new developments can be interpreted, which technologies they should pursue, and which market segments are most promising. Furthermore, it is of great importance to assess the reactions of suppliers, customers, and most of all, competitors towards new technologies. Their actions can change the nature of the opportunities and unfold the manner of competition (Teece 2007, p. 1322 f.).

Once opportunities are detected, the next step in the course of this framework is seizing of these opportunities. According to Teece (2007, p. 1326), one can understand it as addressing opportunities by new products, processes, or services. This requires investments in product development and marketing activities. At the beginning, multiple investment paths are possible. When a dominant design begins to emerge, the
strategic choices become more limited. In this phase, it is crucial for an organization to stay flexible until the dominant design fully emerged. Afterwards, it is important to invest heavily in this specific product design, according to Teece (2007, p. 1326). In addition, the point of time when the new product, service, or technology should be introduced in the market plays an important role because it depends on the current competition in a market. This means that companies that are well positioned in a market can wait when introducing a new product, while others have to be fast in the introduction phase in order to improve the competitive position (Teece 2007, p. 1326).

The seizing of opportunities involves maintaining and improving technological competencies and complementary assets. Further, Teece (2007, p. 1326) argues that seizing also demands a strategy around the investment decisions, right timing, and building increasing return advantages. Therefore, a structured and explicit business model supports these activities. It includes technological choices, market segments a company wants to target, financial ratios, sales strategies, etc. The development of a business model enables a company to (1) analyse alternatives, (2) gather a deep understanding of customer needs, therefore (3) analyse the value chain thoroughly to satisfy customer needs in an cost efficient way, and (4) introduce a neutrality perspective to outsourcing decisions (Teece 2007, p. 1330).

The last step in order to identify dynamic capabilities within an organization, is managing threats and reconfiguration. When a given firm followed the first two steps – sensing, and seizing opportunities – in an efficient way, it will lead to profitability and growth of the firm. Teece (2007, p. 1335) argues that the key for sustainable profitability and growth is a company’s capability to reconfigure assets and organizational structures due to its growth, and market and technology changes. However, incumbent firms that possess a fixed asset endowment may tend to limit new investments to innovations that are related to its current product portfolio, and thus to the existent asset endowment. This makes it difficult for such companies to look beyond organizational borders and to detect radical innovations. Another negative effect of limited investments is that organizations, which detect opportunities, fail in addressing these opportunities or innovations (Teece 2007, p. 1335).

In addition to that, Teece asserts that as organizations grow they have more assets to manage and to protect against imitation. Thus, successful managers will develop routines, rules, and procedures in order to manage its asset endowment. So, top
management skills are required to sustain dynamic capabilities. The achievement of a mid-term asset orchestration and the renewal of the corporation are important managerial functions, according to Teece (2007, p. 1335).

Teece (2007, p. 1337) argues that within the analytical dynamic capabilities framework, the strategic fit between an organization and its environment needs to be continuously achieved. Following table summarizes Teece’s analytical capabilities framework.

<table>
<thead>
<tr>
<th>Tool: Author(s) (Year):</th>
<th>Analytical dynamic capabilities framework</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Teece (2007)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Purpose:</th>
<th>Identification of dynamic capabilities in order to develop new products, services or technologies to sustain or improve competitive advantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basis of competitive advantage:</td>
<td>Capability to integrate, build, and reconfigure internal and external competencies</td>
</tr>
<tr>
<td>Dimensions:</td>
<td>Allocation of dynamic capabilities in:</td>
</tr>
<tr>
<td></td>
<td>• Sensing and shaping opportunities and threats</td>
</tr>
<tr>
<td></td>
<td>• Seizing opportunities</td>
</tr>
<tr>
<td></td>
<td>• Managing threats and reconfiguration</td>
</tr>
</tbody>
</table>

Table 17: Overview of the analytical dynamic capabilities framework
Source: own illustration

5.4.3. **CRITICAL REFLECTION**

Besides that discussed aim of the analytical dynamic capabilities framework, Easterby-Smith and Prieto (2008, p. 237) find some points of criticism. The first critique of Easterby-Smith and Prieto (2008, p. 237) is that the dynamic capability framework by Teece is insufficient. The authors argue that dynamic capabilities can only be identified in firms that possess sustainable competitive advantages that derive not only from their competencies, but also from properties that induce sustainable competitive advantage. Furthermore, the framework does not work well in high-velocity markets. Easterby-Smith and Prieto (2008, p. 237) state that the stability of dynamic capabilities breaks down in such markets and industries, respectively, and they become unstable processes that are difficult to sustain. Furthermore, the framework gives no implications about resources, routines, and capabilities. So Teece does not declare whether to focus on the adaptation of resources, on the routines that enable resources to be operative, or on the routines that reconfigure resources (Easterby-Smith/Prieto 2008, p. 237).
Regnér (2008, p. 568) states in his article that organizational-level capabilities are crucial in any examination of strategic dynamics in a specific market or industry. In order to gain sustainable competitive advantages, these capabilities have to be linked with individual-level and group-level activities. This point is missing in the framework by Teece.

### 5.4.4. Suitability

The first step when applying the analytical dynamic capabilities framework requires a thorough analysis of the market and industry, respectively. Therefore, this framework seems quite time consuming for the application in a traditional SME. Furthermore, external consultants are necessary for a proper analysis of the environment and competitors, which leads to the fact it looks as if the application requires a high level of financial resources. As discussed in chapter 2, many traditional SMEs have limited financial resources, thus it looks as if the application of Teece’s framework is not suitable for enterprises of this size.

When it comes to the second step when applying the framework – seizing – Teece suggest to create a structured and explicit business model. This requires profound management skills. Many owners of traditional SMEs show insufficient profound management skills, as discussed in chapter 2. Therefore, the development of a profound business model suggested by Teece requires external consultants, which is very costly and not necessary for firms of this size.

Furthermore, the reconfiguration of a company’s assets and organizational structures demands top management skills, as suggested by Teece. Due to the fact that most traditional SMEs exhibit insufficient profound management skills, this reconfiguration seems quite challenging. Moreover, the fact that many traditional SMEs hardly conduct strategic planning makes it difficult to apply the dynamic capability framework because it is necessary to know long-term objectives in order to address detected opportunities most efficiently.

However, the framework delivers answers for global challenges that are discussed in chapter 3, because it is aligned to the dynamic business environment. Based on this evaluation, it can be concluded that it looks as if the tool is not suitable for traditional SMEs, because of the high level of financial resources and organizational effort, and the overall complexity of the framework. Table 18 gives an overview of the evaluation.
5.5. **VRIO FRAMEWORK**

Krüger and Homp (1997, p. 25) assume that the competence-based view is the basis for sustainable competitive advantages that derive from improved products and services of firms due to core competencies. Barney (2002, p. 159) developed a framework based on the definition of resources and capabilities in combination with resource heterogeneity and immobility in order to identify core competencies within an organization. By doing so, the framework also identifies strengths and weaknesses of a firm.

5.5.1. **DESCRIPTION**

The acronym “VRIO” stands for four questions to be asked about business activities a firm engages in, as already mentioned in chapter 4. These are (1) the question of value, (2) the question of rarity, (3) the question of imitability, and (4) the question of organization. According to Barney (2002, p. 160), the answers to these questions indicates if a given firm possess core competencies and thus, if they lead to strengths or weaknesses due to a particular resource or capability. The following table should provide the reader an idea of the basic assumptions of the VRIO framework.

<table>
<thead>
<tr>
<th>Amount of financial resources</th>
<th>Effort</th>
<th>Easy comprehensibility</th>
<th>Answering global challenges</th>
<th>Suitability</th>
</tr>
</thead>
<tbody>
<tr>
<td>★</td>
<td>★</td>
<td>★</td>
<td>★★★★</td>
<td>★</td>
</tr>
</tbody>
</table>

Table 18: Evaluation of the analytical dynamic capabilities framework
Source: own illustration
As table 19 shows, the answers to the four questions have different implications on a firm’s competitive position, as well as on its strengths and weaknesses. Therefore, the basic questions of the VRIO framework are discussed in more detail. The first question in the realm of the VRIO framework is the question of value. With reference to Barney (2002, p. 160), this question is about a firm’s resources and capabilities that enables it to respond to external opportunities and threats. So, a valuable resource or capability enables a firm to exploit external opportunities or eliminates environmental threats and thus, constitutes a strength of an organization. Therefore, Barney (2002, p. 160) argues that the question of value combines the analysis of internal strengths and weaknesses with the analysis of external opportunities and threats. However, even if a firm owns valuable resources or capabilities in the present, it does not mean that these resources and capabilities are valuable in the future, according to Barney (2002, p. 161). If an organization recognizes that its resources or capabilities are no longer valuable, it has two opportunities. The firm can either develop new valuable resources and capabilities e.g. by entering strategic alliances or engaging in R&D, or it can apply traditional strengths in new ways by developing additional resources and capabilities (Barney 2002, p. 161 f.). So, Barney (2002, p. 162) concludes that resources and capabilities are only valuable, when they reduce the costs of a firm or increase its revenues.

The second question is the question of rarity. Barney (2002, p. 162) states that if a resource or capability is owned and controlled, respectively, by numerous firms, it will not deliver sustainable competitive advantages to any of them. Thus, if a firm possess valuable, but common resources and capabilities, it leads to competitive parity, as shown by table 19. When it comes to the question how rare a resource or capability
must be in order to gain sustainable competitive advantages varies from situation to situation, according to Barney (2002, p. 163). He argues that as long as the number of firms that own particular valuable resources and capabilities are lower than the number of firms needed to generate perfect competition dynamics within an industry, the resources and capabilities can be seen as rare.

The next question deals with the imitability of resources and capabilities. Barney (2002, p. 163 f.) asserts that firms that own valuable and rare resources and capabilities are often strategic innovators in their industries. However, these resources and capabilities can only lead to sustainable competitive advantages, if other firms will face a cost disadvantage when developing or obtaining them. Companies that do not own these resources and capabilities, have two options to imitate them, with reference to Barney (2002, p. 164). The first option is direct duplication, by which imitating enterprises can direct imitate the resources or capabilities that lead to competitive advantages in the firm that possess it. For instance, if a firm has a competitive advantage due to its R&D capabilities, the imitating organization can develop their own capabilities in R&D. Nonetheless, if the costs of direct duplication are higher than the costs for the development of these resources and capabilities for the firm with the competitive advantage, this competitive advantage may be sustained. The second option imitating firms have is the substitution of resources and capabilities (Barney 2002, p. 164f.). So, if substitute resources or capabilities exist and if the receipt of it does not lead to a cost disadvantage in the imitating firm, the competitive advantage of the other firm(s) will be temporary. If there exist no substitutes or if the costs of its acquisition are too high, competitive advantages may be sustained, as Barney argues (2002, p. 165).

The last question in the realm of Barney’s VRIO framework deals with an organization’s capability to exploit valuable, rare, and costly to imitate resources and capabilities. In more concrete terms, Barney asserts (2002, p. 171), if a company is organized in a way to fully exploit the competitive potential of its resources and capabilities. So, is the formal reporting structure and/or the explicit management control system able to exploit a firm’s resources and capabilities that can lead to sustainable competitive advantages.

5.5.2. Procedure

When applying the VRIO framework Kerth et al. (2015, p. 53) develop four steps to ensure a profound and efficient application. (1) Analysis of the past success, (2) examine expandability, (3) merging of criteria, and (4) management of the identified
core competencies. By doing so, it should be visible, which resources and capabilities constitute core competencies within an organization. The first step in the realm of the application is the analysis of a company’s success in the past. This analysis consists of four specific analyses that complement each other. The first specific analysis is a qualitative and quantitative analysis of the past success, which reveals important capabilities.

The next specific analysis, according to Kerth et al. (2015, p. 55), is the analysis of special customer benefits. An inquiry of customers should imply what features of successful products lead to special customer benefits. Further, the analysis of business processes, like it is illustrated in the value chain of a company, could give some information about possible core competencies. For instance, core competencies of a given firm can rest in their specific knowledge in production technologies or in its application of know-how. The last specific analysis is about main differences and similarities between a firm and its most important competitors. The primary objective of this analysis is to identify the own level of core competencies in comparison to the competitors. Furthermore, it reveals if competing firms imitate product features and what features of the competing firms the company would like to have (Kerth et al. 2015, p. 55).

The second step in the application of the VRIO framework is the examination of the expandability of resources and capabilities. This means that resources and capabilities are only core competencies if they enable a company to develop new products and services and enter new markets and thus, reach new groups of customers (Kerth et al. 2015, p. 56).

The third step when applying the VRIO framework is the merging of the criteria of the previous analyses in order to identify possible resources and capabilities that could be core competencies of a firm. In the next step, these identified resources and capabilities are integrated in the management of core competencies of an organization, with the aim to align it with a company’s strengths to create core competencies (Kerth et al. 2015, p. 56 f.). The following table summarizes the main assumptions of the VRIO framework.
Tools for the identification of internal potentials of competitive advantages

<table>
<thead>
<tr>
<th>Tool: VRIO framework</th>
<th>Author(s) (Year): Barney (2002)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose: Identification of core competencies in order to detect a firm’s strengths and weaknesses and thus, sustainable competitive advantages</td>
<td></td>
</tr>
<tr>
<td>Basis of competitive advantage: Resources and capabilities of a firm</td>
<td></td>
</tr>
</tbody>
</table>
| Dimensions: Identification of core competencies based on four questions:  
  - The question of value  
  - The question of rarity  
  - The question of imitability and  
  - The question of organization |

Table 20: Overview of the VRIO framework  
Source: own illustration

5.5.3. CRITICAL REFLECTION

Besides the advantages of the VRIO framework like the identification of sources of competitive advantages or the transformation of core competencies to new products and markets, Kerth et al. (2015, p. 57) identify some disadvantages. The first point of criticism, with reference to the authors, is that a proper application of the VRIO framework requires a high level of effort due to the specific analysis in the first step. Furthermore, the authors state that core competencies are often visible after the introduction of new products and services or entering new markets. The last point of critique, when referring to Kerth et al. (2015, p. 57), is that the maintenance of core competencies demands some effort, especially when organizations have to figure out if competitors try to imitate their core competencies and therefore, how core competencies can be continually protected.

Knott (2015, p. 1808) points out that it is quite difficult for managers to identify which resources and capabilities correspond to the VRIO criteria (1) valuable, (2) rare, (3) hard to imitate, and (4) enable an organization to exploit it. Further, if managers identify suitable resources and capabilities, they do not know how much to invest in these certain resources and capabilities. So, the management of core competencies is quite difficult as there are also no implications from Barney how to address core competencies effectively and efficiently. Another important point of criticism by Knott (2015, p. 1808) is the assumption that in a high-velocity environment core competencies identified by the VRIO framework lose its value very fast.
Another point of critique is the fact that resources and capabilities can be valuable, but at the same time can have negative effects in some aspects, as stated by Knott (2015, p. 1809). Also he points out the the VRIO framework is not really suitable for developing a firm’s future strategy because it looks backward, as described previously in the procedure of the framework (Knott 2015, p. 1810).

5.5.4. Suitability

The description of the VRIO framework seems quite logic and reasonable, so it can be concluded that its application does not require a high level of effort. When a traditional SME strives for an effective and thorough application, it requires many analyses like the evaluation of customer benefits, analysis of competitors and so on, as previously described. Therefore, owners of traditional SMEs should take into account that the application of the VRIO framework requires time within a traditional SME to conduct inquires for instance.

Despite the critique from Knott that the VRIO framework looks backward, the analyses of the external environment like competitor analysis or identifying external opportunities and threats, delivers answers for global challenges like the internationalization of markets, as discussed in chapter 3. Nevertheless, the tool is not aligned to a high-velocity environment as for instance, the analytical dynamic capabilities framework.

When it comes to the comprehensibility of the framework it can be said that it seems as if does not require profound management skills. This is due to the fact that Barney and Kerth et al. suggest to look also at the value chain of a given firm in order to detect core competencies. As mentioned before, even traditional SMEs normally have already illustrate their production processes and the owner knows the daily business in detail. Therefore, it seems that there are no profound management skills necessary for the application of the VRIO framework. So, it looks as if there is no need for external consultants, which keeps the level of financial resources rather low.

This evaluation implies that the VRIO framework seems suitable for the application in traditional SMEs due to a relative low amount of financial resources, easy comprehensibility, and answering global challenges due to external analyses. Table 21 gives an overview of the evaluation of the VRIO framework when applying them in traditional SMEs.
5.6. **CORE-COMPETENCE PORTFOLIO**

Prahalad and Hamel (1990, p. 81) state that competitiveness derives from a firm’s ability to build, at lower cost and more speedily than its competitors, the core competencies that generate unforeseen products in the long run. Therefore, the core-competence portfolio by Hamel and Prahalad (1997, p. 341) is a tool for the establishment of core competencies of a firm. It combines the resource-based perspective with the market-based perspective in order to indicate strengths and weaknesses of the current core competencies and therefore, gives implications, which core-competencies need to be acquired or deployed in order to sustain or develop a firm’s competitiveness.

### 5.6.1. DESCRIPTION

With reference to Hamel and Prahalad (1997, p. 341), the portfolio brings together the dimension new or existing core competence with new or existing products/markets. By doing so, a portfolio emerges that indicates four possibilities in order to establish core competencies. Figure 14 shows the core competence – market portfolio and its implications.

<table>
<thead>
<tr>
<th>Core-competence</th>
<th>Products/Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>New</td>
<td>Premier plus 10</td>
</tr>
<tr>
<td>Existing</td>
<td>Fill in the blanks</td>
</tr>
</tbody>
</table>

**Figure 14: Core-competence portfolio**

Source: own illustration based on Hamel/Prahalad (1994, p. 250)
As figure 14 shows, the lower-left quadrant combines existing core competencies with existing products or services of a given firm. By doing so it becomes visible what core competencies support which end-product-markets and thus, whether the importation of other core competencies would lead to new opportunities to strengthen the position in this specific market. According to Hamel and Prahalad (1997, p. 341 f.), an organization should ask itself what opportunities arise when broaden the scope of application of existing core competencies in order to strengthen its competitive position in its existing markets. That is why the authors call it “fill in the blanks” (Hamel/Prahalad 1997, p. 342).

The upper-left quadrant deals with the question what core competencies a company has to establish in order to ensure that it is still the market leader in five or ten years. Hamel and Prahalad (1997, p. 342) assert that managers should understand which new core competencies it needs to establish in favour of bracing and expanding its exclusive position in existing markets. Furthermore, Hamel and Prahalad (1997, p. 344) occupy oneself what new core competencies could substitute or obsolete existing core competencies to satisfy the need of existing customers. In order to do so, a company should always conduct forecasts about the future of its markets and industries, respectively. It is about an establishment of the comprehension of new core competencies that may substitute the existing ones (Hamel/Prahalad 1997, p. 344).

When it comes to the lower-right field – white spaces – Hamel and Prahalad (1997, p. 344) argue that it is about market opportunities that are not situated in the existing product-market purview of a company. So, the task of managers is to identify opportunities in which the existing core competencies can be broaden to new product markets. For this reason, Hamel and Prahalad (1997, p. 345) suggest to identify such opportunities from a core competence perspective and not from a market perspective. Moreover, a firm should think about additional customer benefits of particular core competencies. Nevertheless, firms should not invest in imprudent diversification, but rather strict diversification that align with core competencies (Hamel/Prahalad 1997, p. 345).

The last quadrant in the course of the core-competence portfolio constitutes the upper-right field – mega opportunities. In this field, opportunities do not show any similarities with existing products or markets and with existing core competencies. However, Hamel and Prahalad (1997, p. 345) assume that a company should choose these
opportunities if the firm assesses it as particularly attractive. These opportunities can be addressed by acquisitions or partnerships with other firms to gain access to necessary core competencies and learn how to apply them efficiently. Due to the fact that a company lacks of experiences with new markets and core competencies it should be cautious when investing in these opportunities.

5.6.2. Procedure

The first step when applying the core-competence portfolio by Hamel and Prahalad (1997, p. 337) is – according to the authors – the identification of core competencies of a given firm. The ability of a company to use and deploy its core competencies relies in a clear definition of it. Furthermore, a strong agreement from all managers of a firm is critical for the identification of core competencies. The authors also assert that most managers are good at identifying fields in which the company performs well. However, they struggle in establishing a connection to specific groups of capabilities and the competitiveness of products or services. Therefore, Hamel and Prahalad (1997, p. 338) state that the prior task in managing core competencies is to develop an “inventory” of core competencies. This requires a high level of effort because core competencies need to be separated from products and services in which they are embedded. Furthermore, managers have to distinguish between core competencies and non-core competencies, organize and cluster capabilities and technologies in a meaningful way, and label them in order to establish a descriptive and shared understanding. Therefore, the authors assume that this process will take some months in large enterprises.

In the course of the identification of core competencies, managers often fall into a trap. This happens when they delegate the identification process to the relevant department that use specific core competencies. This can lead to a misinterpretation of core competencies, because Hamel and Prahalad (1997, p. 338) assert that core competencies are the soul of a firm, and thus they have to be an integral component of the general management process.

Another tap is that managers neglect to analyse customer benefits and compare the results with the list of core competencies. With reference to Hamel and Prahalad (1997, p. 339), this process is crucial for the identification of core competencies. For this reason the authors suggest to build teams that consist of employees from multiple departments of an organization. In numerous meetings they should identify core competencies of an organization. Moreover, firms should benchmark their core
competencies with their competitors in order to gather information about the current competitive position (Hamel/Prahalad 1997, p. 340).

When identified core competencies and established the core-competence portfolio, one receives information about new competencies that need to be build, as previously described (see upper-left quadrant). Hamel and Prahalad (1997, p. 346) assume that it will take five to ten years to establish core competencies in a particular market. Therefore, the key to success is a persistent effort to strengthen these competencies that they become core competencies. This effort only arises when the management agree on the competencies that should be build. If such an effort is non-existent within an organization, the attempt to build new core competencies deflagrates and each business unit strives to develop their own core competencies. Another result of a lack of effort could be an omission in establishing new core competencies (Hamel/Prahalad 1997, p. 346).

The third step in the application of Hamel and Prahalad’s core-competence-portfolio is the deployment of core competencies (see lower-right quadrant). As figure 14 shows, the task of the management in this field is to use core competencies in several business units and in new markets. Thus, Hamel and Prahalad (1997, p. 347) suggest to use these core competencies in multiple ways within an organization. In other words, one has to relocate such competencies from one department to another or from one business unit to another. Some companies are able to manage this process better than others that leads to the fact that such firms could use their core competencies more efficiently. So, Hamel and Prahalad (1997, p. 348) state that a lot of firms possess a considerable stock of core competencies e.g. employees that have world class capabilities, but lack of an ability to group these employees around new market opportunities. Therefore, it is of great importance that managers begin to understand that the real driver of competitiveness is human resources and thus, core competencies and not what is often assumed financial resources. So, it is critical for success that employees in whom core competencies are embedded are loyal towards a company and to specific business units (Hamel/Prahalad 1997, p. 351).

The last step in the realm of the application of the core-competence portfolio is the protection and defence of core competencies. In order to ensure that core competencies are protected, managers need to be aware in which condition certain competencies are. Therefore, Hamel and Prahalad (1997, p. 352) suggest that the
division managers should control particular core competencies. Further, competence reviews on a regular basis should provide information about the amount of investments, plans to strengthen basic capabilities and technologies, internal firm-specific patterns when using a specific competence, as well as implications of alliances and outsourcing. Table 22 summarizes main assumptions of the core-competence portfolio by Hamel and Prahalad.

<table>
<thead>
<tr>
<th>Tool:</th>
<th>Core-competence portfolio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author(s) (Year):</td>
<td>Hamel and Prahalan (1994)</td>
</tr>
<tr>
<td>Purpose:</td>
<td>Identifying, building and deploying core competencies in order sustain or improve a firm's competitive position</td>
</tr>
<tr>
<td>Basis of competitive advantage:</td>
<td>Core competencies</td>
</tr>
<tr>
<td>Dimensions:</td>
<td>4-field matrix that consists of the two axes new/existing core competence and new/existing market</td>
</tr>
<tr>
<td></td>
<td>• Fill in the blanks</td>
</tr>
<tr>
<td></td>
<td>• White spaces</td>
</tr>
<tr>
<td></td>
<td>• Premier plus 10</td>
</tr>
<tr>
<td></td>
<td>• Mega-opportunities</td>
</tr>
</tbody>
</table>

Table 22: Overview of the core-competence portfolio
Source: own illustration

5.6.3. CRITICAL REFLECTION

Hamel and Prahalad define core competencies as specific resources and capabilities within a firm, as discussed previously. Edgar and Lockwood (2011, p. 64) understand it as a core phenomenon with four different variations. (1) Something created by the company that owns the competence, (2) something the customers of a company created, (3) something that exists naturally, and (4) something that employees within a firm do, so an activity. As an example, the authors mention a company’s communication network that can be seen as its core competence. The authors also create a framework for the identification of core competencies that consists of three steps. (1) Determine the breadth of the core competence, (2) verifying the breadth and dynamic of the core competence, and (3) enhance understanding of competence dynamics and elements (Edgar/Lockwood 2011, p. 68 ff.).

The core-competence portfolio (see figure 14) describes two main choices. Either a firm can improve its current position (fill in the blanks) or can take new opportunities
(mega opportunities). Pfeiffer (2016, p. 20) asks itself what choice is better – minimizing mistakes, or take new opportunities. According to him, eliminating the biggest mistake is the most important determinant of success. Once a company managed it to eliminate the mistake, it can take the opportunity.

5.6.4. Suitability

The application of the core-competence portfolio looks quite simple at the first glance. However, it seems that an efficient and thorough application requires frequent team meetings in order to identify core-competencies of a firm, as previously described. When referring to characteristics of traditional SMEs, as discussed in chapter 2, it looks as if the application of this framework requires a high level of time from both the owner and several heads of division. This may lead to additional costs due to additional working hours because the daily business must not suffer from the application of the core-competence portfolio. Furthermore, a customer analysis is required in order to receive information if the identified core competencies are embedded in the perceived customer benefits.

As discussed in chapter 2, many owner of traditional SMEs do not have profound management skills due to their technical education. It seems that the application of the core-competence portfolio does not require profound management skills due to its relatively easy comprehensibility. Nevertheless, benchmarking of the identified core competencies is necessary in order to receive information about the current competitive position of a firm. Therefore, external consultants are needed due insufficient management skills in traditional SMEs. This requires, on the other hand, financial resources.

Furthermore, owners of traditional SMEs should take into account that the application demands also future forecasts in order to assess which core competencies a company should develop or which markets it should enter to stay competitive in the future. So, it looks as if the core-competence portfolio delivers answers for global challenges traditional SMEs are facing like which products or services can be exported in which country, as discussed in chapter 3.

Based on the evaluation of this framework, it can be concluded that the core-competence portfolio by Hamel and Prahalad seems suitable for the application in traditional SMEs due to an acceptable level of financial resources and its easy
comprehensibility. In addition, it delivers answers for global challenges. Table 23 exhibits an overview of the evaluation of this framework.

<table>
<thead>
<tr>
<th>Amount of financial resources</th>
<th>Effort</th>
<th>Easy comprehensibility</th>
<th>Answering global challenges</th>
<th>Suitability</th>
</tr>
</thead>
<tbody>
<tr>
<td>★★★</td>
<td>★★</td>
<td>★★★★★</td>
<td>★★★★★</td>
<td>★★★★★</td>
</tr>
</tbody>
</table>

Table 23: Evaluation of the core-competence portfolio
Source: own illustration

5.7. G ENERIC INFORMATION MANAGEMENT FRAMEWORK

Spender (1996, p. 47) argues that all kinds of knowledge are the result of a systematic, scientific analysis of our sensory experiences of a knowable external reality. So, the generic information management framework developed by Maes (1999, p. 10) describes how to position information management issues within a given firm and how these issues are related. It consists of four dimensions that are interrelated, namely a horizontal dimension, a vertical dimension, the environment, and resources.

5.7.1. DESCRIPTION

With reference to Maes (1999, p. 4), the framework deals with the management of information as a business resource, as well as a company’s information and communication technology (ICT). Therefore, the generic information management framework consists of four dimensions, as figure 15 shows.
The first dimension when describing the generic information management framework is the horizontal dimension. As figure 15 reveals, it is about the relationship between business, information/communication (I/C), and technology. Maes (1999, p. 10) states that it is about finding a common language within an organization. The growing impact of ICT can be seen as the introduction of a new syntax in the internal and external communication and information of a firm. Thus, according to Maes (1999, p. 10), the left column deals with the content-related application aspect, whereas the middle column deals with task-related issues when applying the generic information management framework. With reference to Lundeberg et al. (1995, as cited in Maes 1999, p. 10), the framework focuses on managing information on three levels. (1) a firm’s capability to disseminate relevant data, (2) establish a shared frame of reference in order to produce meaningful interpretations, and (3) put these interpretations in a meaningful business context.

When describing the vertical dimension – strategy, structure, operations - Maes (1999, p. 12) asserts that it concerns the resource-based perspective of a corporation. Maes refers to Andreu and Ciborra (1996, as cited in Maes 1999, p. 12) who identify that the dimension refers to three learning loops, namely the routinization loop, the capacity loop, and the strategic loop (see figure 16). According to the authors, the first loop – routinization deals with managing the utilization of standard resources and thus, leads to efficient work practices. The second loop is a combination of work practices and
organizational routines. The authors refer to Amit and Schoemaker and state that the aim of this loop is to improve an organization’s capabilities by performing its processes and deploying its resources. The third learning loop – the strategic loop – identifies core capabilities in order to improve a firm’s competitiveness. Figure 16 shows where the different learning loops are situated within the generic information management framework.

![Learning loops of the generic information management framework](image)

Figure 16: Learning loops of the generic information management framework
Source: Maes (1999, p. 13)

The business, information/communication, and technology environment combined with the strategic dimension considers firm-specific choices like what new technologies should be used in an organization’s ICT infrastructure. Whereas, the framework is also build upon firm-specific resources that also include a company’s ICT. Moreover, resources are situated within business operations in order to produce products or services to gain value for the firm.

### 5.7.2. Procedure

After the description of the generic information management framework, it becomes visible that the information management of a firm concerns the business-ICT relationship at three distinct levels, namely strategy, structure, and operations (see figure 15). Therefore, Maes (1999, p. 17) developed a point by point survey for the application of the generic information management framework. However, before each of the points are described, it is crucial to mention that each of the nine cells of the
framework considers its own area of concerns and takes its connection to adjacent cells into account.

The strategy level of the generic information management framework is widely recognized, with reference to Maes (1999, p. 18). When describing the strategic characteristic of information, Maes refers to Teece who extend the definition of information to intangible assets in the form of intellectual capital. For these reasons the strategy level within this framework recognizes the need of companies to address their information and communication processes and the underlying technology in relation to their business strategy (Maes 1999, p. 18). Within the scope of the business strategy, a firm should determine its products and services, what is the ideal position in the market, and what are the core capabilities for differentiation. Moreover, it is critical for success to decide if and when which mergers, partnerships, or strategic alliances are suitable. The information/communication (I/C) strategy, on the other hand, deals with the determination of an organization’s overall external and internal information and communication strategy and a firm’s overall strategy regarding knowledge management. Further, core capabilities should address the usage and sharing of information and knowledge (Maes 1999, p. 18). The last cell within the strategy level is the technology strategy. This cell concentrates on the assessment of emerging technologies, determines a firm’s differentiating ICT capabilities, and decides on strategic partnerships with key technology providers.

The second level when applying the generic information management framework is the structural level. With reference to Maes (1999, p. 19), the structure is of great importance for organizations due to the popularity of the resource-based perspective and its proponents like Wernerfelt or Prahalad and Hamel. This level concerns a company’s architecture of its infrastructure and the development of capabilities that derive from work practices in the operation level, as previously described. These capabilities can be transformed into core competencies, as Maes (1999, p. 19) states. The first cell within this level is the business structure, as figure 15 shows. The aim of the business structure is to develop a firm’s business model, as well as determine critical business processes. Furthermore, it concerns the selection and development of promising business capabilities and the development of the strategic architecture. The next cell within the structural level is the information and communication structure. Its purpose is the development of an information, communication and knowledge model of an organization and the determination of critical information and communication
processes. Another crucial part of this cell is the selection of promising information and communication capabilities, as well as the development of a learning infrastructure. The last cell within the structural level – with reference to Maes (1999, p. 20) - is the technology structure that concentrates on the development of an organization’s technology architecture like data systems for instance. Moreover, another aim of this cell is the selection of technology capabilities.

The last level in the course of the application of this framework is the operational level. According to Maes (1999, p. 20), it is strongly connected with core competencies of an enterprise. So, well-developed information and communication processes, as well as a company’s technology lead to excellence operations. Thus, this level concentrates on working processes and skills. The first cell within this structure constitutes business operations that perform and monitor business processes. Maes (1999, p. 20) suggests to use the balance score card by Kaplan and Norton in order to control business processes. Another purpose of business operations is the acquisition, training, and development of skills of employees. The information and communication operations, on the other hand, refers to the design, performance and control of I/C processes and the acquisition and training of skills of employees that are responsible for information and communication processes within an organization. The last cell in the realm of the generic information management framework is technology operations that concerns the performance and control of information, communication and technology processes, as well as its maintenance. Table 24 summarizes the main idea of this framework.

<table>
<thead>
<tr>
<th>Tool: Generic information management framework</th>
<th>Author(s) (Year): Maes (1999)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose: Positioning and interrelating information management issues to sustain or improve competitiveness</td>
<td></td>
</tr>
<tr>
<td>Basis of competitive advantage: Information and communication technologies</td>
<td></td>
</tr>
<tr>
<td>Dimensions: 4 dimension that are interrelated with each other</td>
<td>Horizontal dimension</td>
</tr>
<tr>
<td></td>
<td>Vertical dimension</td>
</tr>
<tr>
<td></td>
<td>Environment and</td>
</tr>
<tr>
<td></td>
<td>Resources</td>
</tr>
</tbody>
</table>

Table 24: Overview of the generic information management framework
Source: own illustration
5.7.3. **Critical Reflection**

Maes (1999, p. 16) states in his article that the generic information management framework is dynamic because it shows at each moment the state of the art of a company’s information and communication technology. Each cell represents the current situation, as well as the ought-to-be situation. So, the framework requires long-term attention, control, and maintenance. On the other hand, Nguyen et al. (2015, p. 207) investigate five drivers that affect an organization’s information technology adoption and implementation. According to the authors, the owners of SMEs have to engage with five factors, namely with the organization itself, internal IT resources, external IT consultants, supplier relations, and customer relations. Furthermore, Nguyen et al. (2015, p. 208) assume that SMEs often fail when implementing their information technology because it exists a disconnection between the vision and the execution of a firm’s IT. This is due to the fact that SMEs often do not conduct enough planning and research before implementing the new technology. This argument strongly correlates with Pfohl’s (2006, p. 18) argumentation that traditional SMEs hardly conduct any strategic planning. However, another fact why SMEs often struggle when implementing information technology is – with reference to Nguyen et al. (2015, p. 208) – that they do not have the capabilities to expand their IT resources and/or have limited financial resources.

5.7.4. **Suitability**

After describing the main purpose of the framework and its procedure, the generic information management framework seems quite complex when applying it in a traditional SME. When describing the different levels of the framework, it seems that many analyses are necessary for instance, determining core competencies, or business processes. In order to ensure a profound analysis, tools like the previously discussed VRIO framework and the value-chain analysis would be necessary. Furthermore, Maes suggests to use the balanced scorecard by Kaplan and Norton in order to control business processes. Thus, it looks as if the application of the generic information management framework is too complex and requires a high level of effort.

Furthermore, the application of the framework requires external (IT) consultants, as argued by Nguyen, due to insufficient management skills of many owners of traditional SMEs show, as discussed in chapter 2. This, in fact, leads to a high level of financial resources necessary for the application of this framework. However, it seems as if the
framework delivers answers for global challenges traditional SMEs are facing, as discussed in chapter 3. This is due to the fact that Maes states that each cell of the framework gives information about the current state of the art and of the ought-to-be situation of a firm’s information and communication technology. In other words, it shows how the IT of a firm should be in order to sustain or improve its competitiveness.

Based on the evaluation of the framework it can be concluded that it seems not suitable for the application in traditional SMEs. This argument is based on the assumption that the implementation seems to require a high level of financial resources and effort and moreover, profound management skills. Table 25 gives an overview of the evaluation.

<table>
<thead>
<tr>
<th>Amount of financial resources</th>
<th>Effort</th>
<th>Easy comprehensibility</th>
<th>Answering global challenges</th>
<th>Suitability</th>
</tr>
</thead>
<tbody>
<tr>
<td>★★</td>
<td>★★★★</td>
<td>★★</td>
<td>★★★★★</td>
<td>★★</td>
</tr>
</tbody>
</table>

Table 25: Evaluation of the generic information management framework
Source: own illustration

5.8. SPIRAL OF ORGANIZATIONAL KNOWLEDGE CREATION

In general, there exist two types of knowledge, tacit and explicit knowledge, as discussed in chapter 4. Nonaka and Takeuchi (1995, p. 73) developed a framework to describe how knowledge can be created within an organization by the interaction between tacit and explicit knowledge.

5.8.1. DESCRIPTION

Nonaka and Takeuchi (1995, p. 61) state that the two types of knowledge – tacit and explicit knowledge – cannot be observed separated from each other. These two types interact with each other in the form of creative activities of human beings. The authors assume that the social interaction between tacit and explicit knowledge is the basis for the creation of human knowledge. Nonaka and Takeuchi (1995, p. 61) call this interaction “knowledge conversion”. The authors investigate four modes of knowledge conversion, (1) socialization, (2) externalization, (3) internalization, and (4) combination.
The first mode of knowledge creation – socialization – explains knowledge creation based on tactic knowledge, with reference to Nonaka and Takeuchi (1995, p. 62). The authors describe it as a process of sharing experiences and by doing so creating tactic knowledge in form of mental models or technical skills. Further, an individual is able to acquire this type of knowledge without using language. For instance, apprentices learn craftsmanship not through language, but rather from observation, imitation, and practice when they work with their masters (Nonaka/ Takeuchi 1995, p. 62 f.).

The next mode of knowledge creation is from tactic to explicit knowledge, called externalization. Nonaka and Takeuchi (1995, p. 64) define it as a process articulating tactic into explicit knowledge. This happens by using metaphors, analogies, concepts, hypotheses, or models. When attempting to conceptualize an image, discrepancies and gaps can emerge. However, this can help, on the other hand, to promote reflection and interaction between individuals. So, Nonaka and Takeuchi (1995, p. 64) assert that the externalization mode of knowledge creation is typical in the process of concept creation and is provoked by dialogue or collective reflection.

When moving on to the next mode of knowledge creation – combination – Nonaka and Takeuchi (1995, p. 67) state that in the realm of this mode explicit knowledge is created. The authors define it as a process of systemizing concepts into a knowledge system. A successful conversion requires combining different bodies of explicit knowledge. So, individuals exchange and combine knowledge through different kinds of media like documents, meetings, telephone conversations or computerized communication networks. The obtained information is reconfigured through sorting, adding, combining, and categorizing. This can lead to new explicit knowledge within an organization. Nonaka and Takeuchi (1995, p. 67 f.) give as an example the role of middle management in organizations because it plays an important role in creating new concepts through networking of codified information and knowledge. Therefore, computerized communication networks and data bases support this mode of knowledge conversion (Nonaka/ Takeuchi 1995, p. 68).

The last mode of knowledge conversion, with reference to Nonaka and Takeuchi (1995, p. 69) is called internalization. Within this mode explicit knowledge is converted into tactic knowledge. So, this process is closely related to “learning by doing”. The authors assume that if experiences through socialization, externalization, and combination are internalized into the tactic knowledge base of employees in the form of
shared models or technical know-how, they become valuable assets of a firm (Nonaka/Takeuchi 1995, p. 69). Figure 17 reveals the knowledge creation process in an organization.

![Spiral of organizational knowledge creation](source: Nonaka and Takeuchi (1995, p. 73))

### 5.8.2. Procedure

According to Nonaka and Takeuchi (1995, p. 72), an organization is not able to create knowledge by itself. The basis of organizational knowledge is tactic knowledge of individuals in a given firm. Therefore, the task of management is to mobilize and amplify this tactic knowledge. By doing so, tactic knowledge has to go through the four modes of knowledge conversion, that are previously described. Nonaka and Takeuchi (1995, p. 72) call this process knowledge spiral in which the interaction between tactic and explicit knowledge become larger in scale. So, the authors conclude that organizational knowledge creation is a spiral process, where the starting point is situated in the individual level and moving up by communities of interaction that transcend sectional, departmental, divisional, and organizational boundaries (see figure 17).

Nonaka and Takeuchi (1995, p. 73) try to explain the organizational knowledge creation process on the basis of the product development process in a company. The
authors state that product development requires the interaction of individuals with different backgrounds and mental modes. For instance, employees from the R&D department probably focus on technological features of the new product, whereas employees from the marketing department focus on other things like the design of the products. For these reasons, both socialization and externalization are necessary to link individuals’ tactic and explicit knowledge. In order to ensure that this process is conducted efficiently, five conditions must be present in a firm, according to Nonaka and Takeuchi (1995, p. 73 f.).

The first condition for organizational knowledge creation is the intention of a firm. Nonaka and Takeuchi (1995, p. 74) define it as an organization’s aspiration towards its goals. How this goals can be achieved can be answered by a firm’s strategy. The authors assert that the strategy of a given firm enables it to develop organizational capabilities to acquire, create, accumulate, and exploit knowledge. Thus, it is critical for success to define a vision about what kind of knowledge to develop, and to create a suitable management system for its implementation (Nonaka/Takeuchi 1995, p. 74).

The second condition in the realm of the application of the spiral of knowledge creation is autonomy. Nonaka and Takeuchi (1995, p. 75 f.) assert that all members of a firm should act autonomously on an individual level as far as circumstances permit. By doing so, the chances that employees detect new opportunities increase and, at the same time, they may motivate themselves to create new knowledge (Nonaka/Takeuchi 1995, p. 75 f.).

The next condition in order to facilitate the application of the framework is fluctuation and creative chaos. The authors understand fluctuation as an order whose pattern is hard to predict at the beginning, but when organizations face them with an open attitude they are able to exploit environmental signals in order to improve their knowledge system (Nonaka/Takeuchi 1995, p. 78).

With reference to Nonaka and Takeuchi (1995, p. 80), redundancy is also an important condition in the course of the application of the spiral of knowledge creation. It is about information that goes beyond immediate operational requirements. The authors state that the sharing of redundant information promotes the sharing of tactic knowledge. This leads to the assumption that redundancy of information speeds up the knowledge creation process (Nonaka/Takeuchi 1995, p. 80 f.).
The last condition – requisite variety – helps to advance the application of the knowledge spiral. According to Ashby (1956, as cited in Nonaka/Takeuchi 1995, p. 82), the diversity of an organization has to match with the variety and complexity of its environment in order to deal with challenges caused by this environment. Nonaka and Takeuchi (1995, p. 82) assume that this requisite variety can be enhanced by combining information differently, flexibly, and quickly. Moreover, it is important for the application of the framework to provide equal access to information throughout an organization. Therefore, every member should be able to have easy access to the broadest variety of necessary information (Nonaka/Takeuchi 1995, p. 82). The following table gives an overview of the main assumptions of the spiral of organizational knowledge creation.

<table>
<thead>
<tr>
<th>Tool: Spiral of organizational knowledge creation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author(s) (Year): Nonaka and Takeuchi (1995)</td>
</tr>
<tr>
<td>Purpose: Framework for creating organizational knowledge in order to sustain or improve the competitiveness of a firm</td>
</tr>
<tr>
<td>Basis of competitive advantage: Tactic and explicit knowledge</td>
</tr>
<tr>
<td>Dimensions: 4 modes of knowledge conversion</td>
</tr>
<tr>
<td>• Socialization</td>
</tr>
<tr>
<td>• Externalization</td>
</tr>
<tr>
<td>• Combination</td>
</tr>
<tr>
<td>• Internalization</td>
</tr>
</tbody>
</table>

Table 26: Overview of the spiral of organizational knowledge creation
Source: own illustration

5.8.3. CRITICAL REFLECTION

Maes and Sels (2014, p. 141) examine in their article the role of internally and externally orientated knowledge capabilities in SMEs. They state that the environmental dynamism SMEs are facing nowadays acts as a push-and-pull force for adapting and innovating products, processes, and routines in order to ensure long-term competitive advantages. Therefore, Maes and Sels (2014, p. 143) suggest that SMEs should make better use of their current knowledge resources and capabilities in order to foster product innovation. This is only possible when many organizational members are responsible for the innovation process because they can benefit from each other through transfer and the profound assimilation of knowledge. So, internal knowledge
transfer and creation of capabilities are of great importance for a company’s innovation process (Maes/Sels 2014, p. 144).

Moreover, the authors suggest that SMEs should look for and try to gain access to external sources of knowledge. Nevertheless, Maes and Sels (2014, p. 144) refer to the scarce resource endowment SMEs possess. Therefore, SMEs have to develop capabilities that foster organizational learning and externally orientated knowledge-related capabilities in order to build a broader knowledge endowment. For instance, knowledge about a SME’s market and customers constitute important external knowledge (Maes/Sels 2014, p. 144).

Marvel (2012, p. 448) asserts that the creation of innovation depends on organizational learning and on the successful acquisition of knowledge from multiple sources. The execution of experiments or partnerships with universities can be seen as important sources for knowledge acquisition. Moreover, Marvel (2012, p. 449) investigates innovations that enhance or destroy competencies of a firm. Innovations that enhance competencies are improvements that build on existing know-how. Innovations that enhance competencies can be substitutes for older technologies in a particular market and industry, respectively. Whereas, innovations that can destroy competencies of an organization are fundamentally different and are possessed by new firms that grow rapidly. Such innovations create new product classes or substitute existing products (Marvel 2012, p. 449 f.).

5.8.4. SUITABILITY

Based on the discussed purpose and procedure of the spiral of organizational knowledge creation and characteristics of traditional SMEs (see chapter 2), it seems that this framework is relatively easy understandable when applying them in a traditional SME. This is due to the fact that Nonaka and Takeuchi describe it in a straightforward, reasonable way that does not require profound management skills of the owner of a traditional SME. Therefore, it looks as if the framework does not require a high level of organizational effort, which leads to a relative low amount of financial resources.

However, in many traditional SMEs knowledge is often generated through “learning by doing” when apprentices observe their masters at work. Moreover, many firms of this size show a low degree of formalization, as discussed in chapter 2, that leads to
unformulated organizational routines. Therefore, knowledge creation in a traditional SME can be seen as an unconscious process that owners are often not aware of.

Furthermore, it seems as if the spiral of organizational knowledge creation gives information about global challenges because one condition of its application is that the variety of an organization has to match with the variety and complexity of its environment in order to deal with challenges caused by this environment, as discussed in the framework’s procedure. A profound application requires traditional SMEs to face up with the dynamic environment imposed by global challenges, discussed in chapter 3.

Based on this, evaluation it seems that this tool is suitable for the application in traditional SMEs due to its easy comprehensibility, low-level of organizational effort and financial resources, and it gives some implications for global challenges. Table 27 gives an overview of the evaluation of this framework.

<table>
<thead>
<tr>
<th>Amount of financial resources</th>
<th>Effort</th>
<th>Easy comprehensibility</th>
<th>Answering global challenges</th>
<th>Suitability</th>
</tr>
</thead>
<tbody>
<tr>
<td>★★★★★</td>
<td>★★★★</td>
<td>★★★★★★★</td>
<td>★★★★</td>
<td>★★★★★</td>
</tr>
</tbody>
</table>

Table 27: Evaluation of the spiral of organizational knowledge creation
Source: own illustration
5.9. **Comparison of the tools for the identification of internal potentials of competitive advantages**

The next two pages compare the selected tools for the identification of internal potentials of competitive advantages. A summary of the main points of each tool like purpose, basis of competitive advantage, as well as its evaluation gives implications about the suitability of the tools for the application in traditional SMEs. The next chapter states the main conclusions of this Master Thesis and it is explained what tools are suitable for the application in traditional SMEs and to what extent they address global challenges.

<table>
<thead>
<tr>
<th>Tool: Grant's framework for the appraisal of resources and capabilities</th>
<th>Purpose: Appraising resources and capabilities in order to detect key strengths and weaknesses and formulating a competitive strategy</th>
<th>Purpose: Identification of competitive advantages by illustrate a firm's value creation process by its value chain</th>
<th>Purpose: Identification of distinctive capabilities in order to find an appropriate market position and maximize competitive advantages</th>
<th>Purpose: Identification of dynamic capabilities in order to develop new products, services or technologies to sustain or improve competitive advantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basis of competitive advantage: Resources and capabilities</td>
<td>Core competencies, cost advantage, differentiation advantage</td>
<td>Capabilities of firms</td>
<td>Capability to integrate, build, and reconfigure internal and external competencies</td>
<td></td>
</tr>
<tr>
<td>Dimensions: Three factors:</td>
<td>Division of value activities in:</td>
<td>Three main sources of distinctive capabilities:</td>
<td>Allocation of dynamic capabilities in:</td>
<td></td>
</tr>
<tr>
<td>- Establishing competitive advantage</td>
<td>- Primary activities and Secondary activities</td>
<td>- Architecture</td>
<td>- Sensing and shaping opportunities and threats</td>
<td></td>
</tr>
<tr>
<td>- Sustaining competitive advantage</td>
<td></td>
<td>- Reputation</td>
<td>- Seizing opportunities</td>
<td></td>
</tr>
<tr>
<td>- Appropriating the returns to competitive advantage</td>
<td></td>
<td>- Innovation</td>
<td>- Managing threats and reconfiguration</td>
<td></td>
</tr>
<tr>
<td>Total evaluation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 28: Comparison of the tools

Source: own illustration
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose:</td>
<td>Identification of core competencies in order to detect a firm’s strengths and weaknesses and thus, sustainable competitive advantages</td>
<td>Identifying, building and deploying core competencies in order sustain or improve a firm’s competitive position</td>
<td>Positioning and interrelating information management issues to sustain or improve competitiveness</td>
<td>Framework for creating organizational knowledge in order to sustain or improve the competitiveness of a firm</td>
</tr>
<tr>
<td>Basis of competitive advantage:</td>
<td>Resources and capabilities of a firm</td>
<td>Core competencies</td>
<td>Information and communication technologies</td>
<td>Tactic and explicit knowledge</td>
</tr>
</tbody>
</table>
| Dimensions: | Identification of core competencies based on four questions:  
- The question of value  
- The question of rarity  
- The question of imitability and  
- The question of organization | 4-field matrix that consists of the two axes new(existing) core competence and new(existing) market  
- Fill in the blanks  
- White spaces  
- Premier plus 10  
- Mega-opportunities | 4 dimension that are interrelated with each other  
- Horizontal dimension  
- Vertical dimension  
- Environment and Resources | 4 modes of knowledge conversion  
- Socialization  
- Externalization  
- Combination  
- Internalization |
| Total evaluation: | ★★★★★ | ★★★★★ | ★ | ★★★★★ |

Table 29: Comparison of the tools  
Source: own illustration
6. **Conclusion: Suitability of Tools for SMEs in a Globalized World**

After discussing characteristics of traditional SMEs, current global challenges they are facing, as well as the selected tools for the identification of internal potential of competitive advantages, one can say that some tools correlate with each other. For instance, at the procedure of the first tool that is described – Grant’s framework for the appraisal of resources and capabilities – the author suggests to use the value-chain analysis in order to identify key resources and capabilities. Furthermore, when describing the procedure of the VRIO framework, Kerth et al. suggest organizations to have a look on their value chains in order to gain information about possible core competencies. In addition, Krüger and Homp argue to make a use of the value-chain analysis when identifying core competencies. Nevertheless, analysing only the value chain of a traditional SME may be not sufficient, with reference to Barney and Kerth et al. because firms only possess core competencies when they fulfil all four criteria of the VRIO framework.

Moreover, Maes states to create and deploy core capabilities in order to implement an effective information management technology in a firm. In addition to that, the application of the generic information management framework requires the creation of a profound business model. This correlates, on the other hand, with Teece’s assumption who also suggest to develop a business model when applying the analytical dynamic capabilities framework. Kay asserts that a corporation’s architecture facilitates the exchange of knowledge, which concerns the spiral of organizational knowledge creation.

Another interesting point that emerges in the course of this Master Thesis is that the application of some tools requires the same analyses. For instance, the application of the core-competence portfolio demands for an analysis of a firm’s customers like the application of the VRIO framework does.

In order to provide a more profound idea about what tools seem to require a low or high amount of financial resources, are easy comprehensible etc. four portfolios are developed. (1) the first portfolio reveals what tools require a either low or high level of financial resources and to what extent they address global challenges, (2) the next portfolio gives information about the level of organizational effort and the potential to answer global challenges, (3) the third portfolio shows which tools are easy
comprehensible and at the same time address global challenges, and (4) the last portfolio that is created exhibits the overall suitability of the tools for the application in traditional SMEs and to what extend they address global challenges.

The first portfolio (see figure 18) combines the amount of financial resources with the potential of answering global challenges. As figure 18 shows, four out of the eight selected tools seem to require a relatively low amount of financial resources when applied in traditional SMEs (see chapter 5). Moreover, only three tools seem to demand a low level of financial resources and, at the same time, give some implications for global challenges. These tools are the VRIO framework, the core-competence portfolio, and the spiral of organizational knowledge creation. However, the portfolio also shows that tools that address global challenges to a high extent like the dynamic capability framework, the distinctive capabilities framework, and the generic information management framework are very costly in their application.

The second portfolio (see figure 19) reveals which tools require how much organizational effort and to what extent these tools answer global challenges that traditional SMEs are facing.
Figure 19 illustrates that only three out of the eight selected tools seem to have a relatively low level of organizational effort and at the same time answers global challenges on a relatively low level. These tools are the VRIO framework, the spiral of organizational knowledge creation and the core-competence portfolio. The cause why these tools are situated in a similar position in the lower-right quadrant as in portfolio 1 is that the organizational effort is connected with the amount of financial resources necessary for the application of the tools. This means that the application of a tool that requires a low level of organizational effort leads to a low amount of financial resources of a SME and vice versa (see chapter 5). Figure 19 also shows that tools that answer global challenges to a high extent like the distinctive capability framework, for instance, demand a high level of organizational effort.

The next portfolio gives an idea about the comprehensibility of the selected tools within the resource-based perspective.
Conclusion: Suitability of tools for SMEs in a globalized world

Figure 20: Comprehensibility of tools and potential to answer global challenges
Source: own illustration

Figure 20 exhibits that four out of eight tools are easy comprehensible when they would be applied in traditional SMEs. These tools are the value-chain analysis, the VRIO framework, the core-competence portfolio, and the spiral of organizational knowledge creation. However, the value chain analysis gives no implications for answering global challenges, whereas the other three tools address global challenges to a low extent. On the other hand, tools that answer global challenges on a high level require profound management skills that many traditional SMEs do not possess.

In order to answer the research question of this Mater Thesis what tools are suitable for the identification of internal potentials of competitive advantages in traditional SMEs and to what extent they answers global challenges, the two evaluation criteria “suitability” and “answering global challenges” are selected. A combination of these criteria shows a portfolio (see figure 21) that reveals which tools are suitable for the application in traditional SMEs and to what extent these tools answers global challenges.
The average score of the evaluation criteria (1) amount of financial resources, (2) organizational effort, and (3) easy comprehensibility leads to the suitability of a tool. As figure 21 shows, only three out of the eight selected tools seem suitable for the identification of internal potentials of competitive advantages in traditional SMEs and, at the same time, provide implications for global challenges. These tools are the VRIO framework, the core-competence portfolio and the spiral of organizational knowledge creation. This portfolio also reveals that the value-chain analysis is also a suitable tool for the identification of internal potentials of competitive advantages, but gives no implications for global challenges. A tool that seems not suitable for the application in traditional SMEs is Grant’s framework for the appraisal of resources and capabilities and it also gives no implications for global challenges.

This portfolio also reveals that it seems that tools, which are answering global challenges on a high level like the dynamic capability framework or the distinctive capability framework are not suitable for the application in traditional SMEs due to its high level of financial resources, organizational effort and their complexity (see chapter 5). Therefore, more research is necessary in order to provide traditional SMEs with
tools and methods to identify internal potentials of their competitive advantages and, at the same time, give implications about their current global challenges. For instance, it seems that the value-chain analysis is suitable for the implementation in traditional SMEs due to its rather low level of financial resources and organizational effort, and its easy comprehensibility. Nevertheless, it seems that it does not deliver answers for global challenges like internationalization of SMEs (see chapter 5.2.4). Therefore, a framework that comprehensively examines the internationalization potential of a firm’s value activities is missing in the literature so far.
BIBLIOGRAPHY


Shad Manaman, H., Jamali, S., and AleAhmad, A., 2016, Online reputation measurement of companies based on user-generated content in online social networks, *Computers in Human Behavior*, Vol. 54.


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