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Gorazd Ocvirk

Strategic Management of Market Niches

A Model Framework

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Reihe herausgegeben von
Max J. Ringlstetter, Ingolstadt, Deutschland

In dieser Schriftenreihe werden aktuelle Forschungsergebnisse im Bereich der Unternehmensentwicklung präsentiert. Die einzelnen Beiträge orientieren sich an Problemen der Führungs- bzw. Managementpraxis. Im Mittelpunkt stehen dabei die Themenfelder Strategie, Organisation und Humanressourcen-Management.

Reihe herausgegeben von
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List of abbreviations

cf.	=	confer/ compare
chap.	=	chapter
e.g.	=	for example
et al.	=	et alteri/ et alii
fig.	=	figure
f.	=	following page
ff.	=	and the following
KPI	=	Key performance indicator
M&A	=	Mergers and acquisitions
Ph.B.	=	Bachelor of Philosophy
P.	=	Page
R&D	=	Research and development
SM	=	Strategic management
SMJ	=	Strategic management journal
URL	=	Uniform Resource Locator
vs.	=	versus
www	=	World Wide Web

Introduction

(1) Problem formulation (definition)

A field of research perhaps best known for its conceptual obscurities throughout the different scientific disciplines which entail it as a concept, the niche has held itself as one of the core concepts of ecology. It has been invaluable for population research in sociology and uncontested market space in management science for over a century. The focus of attention of the thesis will be on the strategic management of market niches, where the research goal of this thesis is the construction of a comprehensive new market niche model framework in strategic management. The key elements developed in this model provide an extensive framework for the construction of a strategic management theory of market niches.

The importance of market niche strategies has been gaining in relevance since the end of the twentieth century due to several different reasons. The main underlying reason for the emergence of market niches lies in the market/ industry maturity and the process of market commoditization, which is characterized by:[1]

- the exhausted opportunities for new primary demand,
- the market structure is stabilized,
- cost leadership is becoming a major driving force of the competition,
- commoditization of the market,
- competitors search for an advantage in a variety of ways,
- positioning in industry or the market and targeting chosen segments is becoming important ("explosion of niches").

This underlying process of market/ industry maturity transcends itself through the combination of several different factors which increases in (a) global competition and industry consolidation, (b) changing consumer preferences and (c) technological advances and are the most important ones (see figure IN-2).

[1] Cf. Agarwal/Audretsch (2001), p. 24f; Karakaya/Kerin (2007), p. 271; Audretsch/Woolf (1986), p.46f.

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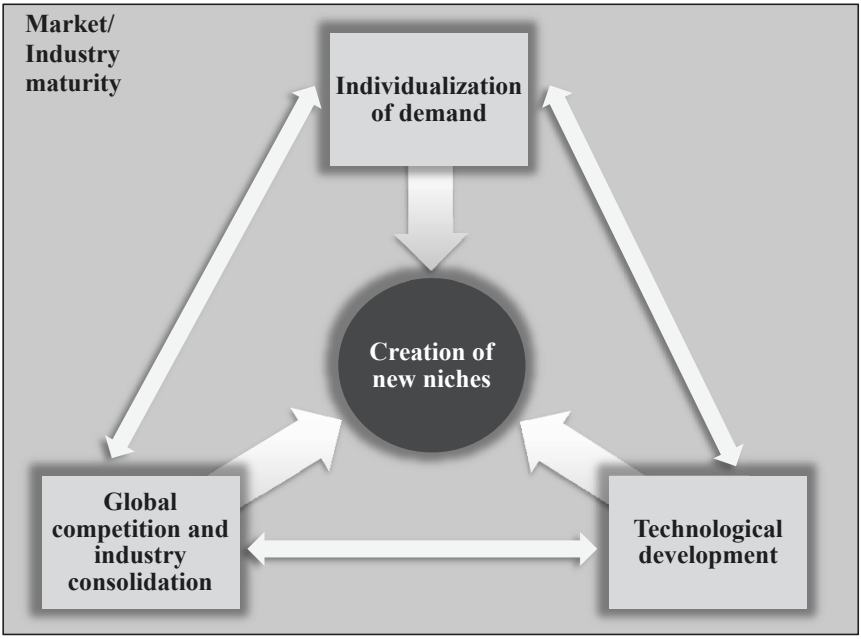

Figure IN-1: Factors contributing to the creation of new niches

(Source: Own interpretation)

(a) The increases in global competition especially from Asian countries such as China and India and the rapid growth of some Eastern European countries, especially Russia[2] in the last two decades, has led to sinking revenues and profit margins and an increased fight for existing market shares in saturated markets. In addition to a changing business environment companies will additionally have to face the looming global financial crisis, which will have a devastating effect on many industries across the globe.[3] To maintain a high level of revenues and profitability companies increased their M&A activities, which can be seen in a high increase of M&A's in value and number since 1990. This has led to an increase in industry

[2] Cf. Wadhva (2006), p. 1, Ahrend (2006), p. 1 ff.

[3] Cf. Guimaraes (2008), p. 32, Hall (2008), p. 18, Streeter (2008), p. 4. These effects are already felt around the world, with the governments of the largest global industrial nations drawing up plans to fight the recession and stop the financial crisis form spreading. Although the crisis has had a devastating effect on industries with low added value and it also did not leave companies in highly developed sectors unscarred.

consolidation, which occurs when a small number of companies control the majority market share in an industry within a restricted time frame and within the process of transforming a fragmented market structure into a concentrated one.[4] Although this industry consolidation lead to a decrease in the total number of companies in a given industry, several companies apart from the industry leaders, still managed to remain highly successful and profitable on a smaller scale. These companies managed to apply a niche strategy which enabled them to gain and maintain a sustainable competitive advantage without threatening or engaging in direct competition with the industry leaders.[5] This niche strategy also enabled them to remain independent throughout the industry consolidation process. The implementation of a niche strategy is not exclusive to companies who are not global leaders. Large corporations apply niche strategies as part of their business unit strategies or strategies for their subsidiaries. Although niches are not the exclusive domain of small and medium sized companies, the aspect of differentiating niche strategies in a company or business level has been largely neglected so far by both scientific and practice literature.

(b) The shift from supplier to buyer markets was another key element that contributed to the rapid development of niche strategies. This effect manifests itself through the individualization of demand.[6] This is the result of an interplay among value proposition (where some elements of the value proposition are differently positioned or emphasized), perceived value of the customer and his/her willingness to pay. With the growing substitutability and homogenization of product and ser-

[4] An industry consolidator is a company which acquires other companies and integrates them in its own corporate structure (fully from an ownership standpoint and to a varied operational degree). Financing and operational economies are two ways in which industry consolidators create value cf. Roger Hallowell (1999), p. 359 f. A clear sign of industry concentration is the comparably faster growth of revenues and profits of large corporations in comparison to small and medium sized companies Fein/Jap (1999), p. 62. The main literature based on industry consolidation was developed by Deans et al. (2003); Kröger et al. (2006); D'Aveni (1994); Kim/Mauborgne (2006).

[5] This holds true for the majority of industries which are scale sensitive (and also have scale sensitive cost curves), however there are also industries which are not scale based. This means that if a company is small it should not automatically be labeled a “niche player”. A niche player is a company which consciously follows a niche strategy.

[6] Cf. Oxenfeldt (1966), p. 2.

vice supply many customers look for products and services tailored to their individual demand.[7] Consumers make their decisions based on the products or service applicability. This applicability has to be higher than a certain level of need or attractiveness for the consumer in order for them to consider purchasing. This level is defined by functionality and price. Functionality is hereby defined as the minimum product performance which is still acceptable for the purchase of a product independent of its price. The price component is the highest price a customer is prepared to pay for the product, which meets their minimum performance requirements. It reflects the interdependency between product performance and price. The heterogeneity of consumers can be observed in their ability to maximize the product's application. Consumers differ in the level of exploitation and benefit which they can derive from a product, representing the product's applicability. On the other hand the difference in the willingness to pay for the product is also different amongst various consumers, depending on the availability and presence of substitute products.[8] This and the fact that the lifestyles and consumer preferences have been changing more and more to individual needs and customization as opposed to mass production, thereby creating new niches or markets for specific customer demands.[9] All this leads to the realization that consumer needs have to be differentiated and of complex configuration in order for the market niche to be covetable.[10]

(c) Lastly, a key driver for the competitiveness of firms in their respective industries is the ability to utilize and implement new technological developments. This ability not only enables these companies to exploit new technologies but also to predict technological advances and developments in the future.[11] The increasing heterogeneity of the demand in the environment has also had an effect on the development of new technologies. In most cases products have a decreasing marginal utility for new technological advances that are above the minimum performance requirements of consumers. Thus meaning that if product functionality is upgraded consumer's willingness to pay for improvements will decline. When considering the ceteris paribus assumption, consumers would choose a technologically more advanced product over a technologically inferior product. This is key for companies to continue with their activities in the development of new technologies to remain

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7 Cf. Allenby et al. (1998), p. 384; Calvet/Comon (2003), p. 653; Trachsel (2007), p. 2.
8 Cf. Adner/Levinthal (2001), p. 615f.
9 Cf. Samli (1968), p. 48.
10 Cf. Kotler et al. (2007), p. 359.
11 Cf. Athreye (2001), p. 2; Cohen/Levinthal (1994), p. 227.

competitive. The heterogeneity of different consumer preferences has had an effect on the different production types and times of development before a product becomes relevant for the consumer.[12] This has allowed some companies to rethink their innovation strategies, where the ever changing consumer preferences lead to shorter innovation cycles and production in smaller lines but in different versions for different types of consumers.

These three factors are interrelated and influence one another, and along with the underlying process of industry maturation play a vital role in the creation of new market niches. As the following chapter will explain there are several issues with the comprehension of the niche concept in management sciences. These issues and deficiencies in the current state of research will be shortly enlightened and formulated into the research questions of this thesis, which will represent a new contribution to the body of knowledge in the field of niches in management studies.

The complexity and scope of the main factors mentioned, the underlying industry/market maturation in the initial discussion above and the historical development of the niche as a discipline has contributed to the current state of the field in strategic management, where there are many conceptual obscurities that lead to the need for a deeper examination and better understanding of the niche in the field of strategic management. There are four main issues which underline this need:

- There is the problem that a clear and generally accepted definition of the niche in strategic management is still absent. One of the main reasons for this status quo is the fact that the niche concept originates from ecology and is therefore subject to different interpretations, analogies and metaphors in business sciences.[13] Authors generally define the niche concept in strategic management with one of the following characteristics: market segment, unsatisfied or partly satisfied consumer demand, protection from competition, higher willingness to pay and unique resource configuration.[14] Since each of these char-

[12] Cf. Adner/Levinthal (2001), p. 616; Agarwal/Bayus (2002), p. 1025; Bayus et al. (2007), p. 139.

[13] The use of analogies from other scientific disciplines has always been present in business sciences and their purpose was to help with the understanding of economic phenomena. Cf. Penrose (1952), p. 804; Gavetti/Levinthal (2004), p. 692. Similarly to analogies, metaphors in science are used to clarify arguments and ideas that assist in further understanding phenomena that is hard to comprehend by using a resemblance that quickly leads to comprehension of the phenomena in question Beyer (1992), p. 468; Cornelissen et al. (2008), p. 8.

[14] Cf. Trachsel (2007), p. 43f; Danner (2002), p. 12f; Rosenbaum (1999), p. 12.

acteristics focuses on a different point of view, which applies a different paradigm or school of thought, there is rarely a consensus on what the common definition of a niche should be. In the majority of cases the definition is tailored to suit the research topic, thereby neglecting other aspects that are key for the niche definition in strategic management.

- When discussing niche strategies, there are often empirical examples of companies in scientific and practice literature that use a niche strategy.[15] These so called *"niche players"* often raise the topic of discussion of what constitutes a niche player and which companies can be referred to as niche firms. Companies that employ a niche strategy cannot simply be defined within different borders of key performance indicators (KPI's) other financial performance indicators or metrics. As a result of these indicators they differ from industry to industry and also because there has to be a deeper understanding of the niche at the corporate and business strategy level of the company as well as its impact on the organizational structure. This leads to another important point when discussing companies that employ a niche strategy, which is whether the niche strategy is employed as an overall corporate strategy or a business unit strategy. The aim of the corporate strategy is to determine which businesses and with which intention the company will compete in and how to manage the business units therefore answering the question of *where to compete*. The business unit strategy deals with questions of how to compete with a particular business and determines the key steps and timing for the expected objectives and results – *how to compete*.[16] This distinction is important because it puts a new perspective on the company size and the niche strategy issue. Considering this distinction implies that all companies can apply a niche strategy at the corporate or business level, regardless of company size.
- Thirdly, there is the issue of practice vs. science, which is one of the main topics when discussing niches in strategic management. The main reason for

[15] These examples are usually derived from industries with a homogenous product structure such as publishing – newspaper, brewing, hotel, banking, textile, automotive suppliers among others. The results of these studies are then generalized, to derive some general conclusions about niche strategies of companies. Cf. Carroll (May, 1985); Samli (1968); Greve (2000); Raynor/Weinberg (2004); Dobrev et al. (2002); Erin D.Parrish et al. (2006); Swaminathan (1998).

[16] Cf. Beard/Dess (1981b), p. 663; Steinle (2005), p. 303f; Hinterhuber (1984), p. 76, 131. Functional area strategies will not be in the scope because they possess a different reach and can be discussed within corporate or business unit strategies.

this is the fact that practice has traditionally had a strong influence on science in the field of strategic management in general and on the niche management system more specifically.[17] Since the nature of strategic management deals with business concepts that affect firm performance there is a large practical body of literature focusing on the niche aspect of strategic management. The focus of this literature lies predominantly in achieving a competitive advantage in the market or creating new and uncontested market space by using a niche strategy.[18] The scientific literature is in some ways lagging behind, although it is much more sophisticated in its nature; it has so far failed to produce the theoretical groundwork for practitioners to include in their research on strategic niche management.[19]

- Fourthly, the field of strategic management has witnessed rapid growth in the diversity of subjects and the research it has applied. This growth can be attributed to the fact that strategic management does not hold on to a single paradigm or a set of assumptions but instead draws upon multiple theories or ideas to gain a complementary view of a subject.[20] This interdisciplinary influence has led to the current state of the field, where niches in strategic management have many different typologies but no well founded model or theory to lean on. The only body of work referring to the topic of niche theory was Rosenbaum's 1999 evolutionary approach, which focused on niche marketing and where strategic niche marketing was only briefly discussed.[21]

The four issues raised in the problem formulation have been pivotal for the development of the goals of this thesis. These deficiencies in the examination of the niche in strategic management, have created a need for a comprehensive niche model framework, which has so far remained absent from the niche research agenda in

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[17] This fact can be attributed to the predominant nature of applied science in strategic management as opposed to strategic management being part of the fundamental or pure science. The term management system is understood here as defined by Ringlstetter/Morner (1995), p. 156; Ringlstetter (1997), p. 104f; Kirsch (1997), p. 13f; Kirsch (2001a), p. 193.

[18] This is mostly contemporary literature from the mid 1990's on such as Moore (1996b); Simon (1996); Iansiti/Levien (2004); Kröger et al. (2006); Rall (2006); Anderson (2007); Vizjak (2008).

[19] Cf. Trachsel (2007), p. 2.

[20] Cf. Hoskisson et al. (1999), p. 418.

[21] Cf. Rosenbaum (1999), p. 374.

management studies. Therefore the ambiguity in the field of research can be attributed to the lack of a comprehensive model or theory which would enable further development of the niche as a field of science in strategic management. This thesis provides a contribution to the development of a model with a high degree of generalization. This model provides a sound framework, upon which a strategic management theory of market niches can be built upon. The research question will further enlighten these goals.

(2) Research questions

The research questions of the thesis are built upon the issues raised in the problem formulation. The plurality of approaches and different interpretations and context in which the niches were approached and applied and its growing importance in the field of strategic management relevance were the main reasons for the creation of this thesis. Therefore the main research goal of this thesis is to construct a model framework for the strategic management of market niches, which has been absent so far in the field of strategic management. The goal of the model framework is to provide a set of basic hypotheses of the market niche strategy and necessary conditions for its validity. This model will also provide the groundwork for a comprehensive niche theory in strategic management. These research goals represent the three main cornerstones of the thesis:

- *the review of the existing literature,*
- *dynamic capabilities as an integrating paradigm for market niches, and*
- *construction of a model framework.*

Each of these cornerstones is a rounded subject, which is connected to the other parts of the thesis. The goal of the first research question is to shed some light on the topic of conceptual obscurities and to position the research in the thesis inside the field of strategic management. A synopsis of previous research in natural, social and business sciences and emerging trends in niche studies will provide a foundation on which the following research questions will be built upon. The result of the first research question will be a set of working definitions of the market niche and niche strategy which will be aligned with the main research goal of the thesis.[22] Therefore the first research question will focus on the following topic:

[22] Cf. Saunders et al. (2007), p. 57; Ridley (2008), p.2.

Research question 1: What is a market niche and a niche strategy and what was the historical intellectual development of the niche concept in natural, social and business sciences like?

Research question 1a complements the first research question by focusing on the reasons that have led to the need for the creation of a niche model framework in strategic management. This underlying question deals with the contents of the existing approaches to the research of the market niche and critically assesses their main scientific contribution as well as its deficiencies.

Research question 1a: Why is there a need for a niche strategy model in strategic management?

After defining what niches are and explaining their development path from ecology to strategic management, the focus will shift towards a strategic management paradigm or school of thought upon which the market niche model can be based. The question of why some organizations are more successful than others is central to strategic management research. Strategic management as a science has seen large-scale growth in the number of topics since its beginning in Chandler's (1962) Strategy and Structure.[23] As with other academic fields, strategic management is leaning more and more towards the specialization of research topics, with the maturity of the field and the growing body of knowledge.[24] The understanding that a need for the creation of a niche model exists in strategic management brings forth additional implications. Therefore the appropriate research paradigm or school of thought is selected for the construction of a model. Therefore, the goal of the second research question is:

Research question 2: Which paradigm or school of thought is the most suitable as the framework for the niche strategy model?

The model framework will be the main focus of the third research question. The model provides an explanation of why important relationships between different variables exist.[25] The process of establishing and defining the main constructs is at the essence of the model. The relationships between these constructs are used to develop assumptions that prognosticate and explain the type and behavior of the phenomenon in question.[26] The complete model has to provide the answer to four

[23] Although the origins of strategic management can be traced back to the early twentieth century, most scholars see Chandler's work as the starting point of strategic management. Cf. Crook et al. (2006), p. 409.
[24] Cf. Hambrick (2004), p. 91.
[25] Cf. Smith/Hitt (2005), p. 1; Nayak (2008), p. 175.
[26] Cf. George/Jones (2000), p. 657.

essential questions: what are the constructs, how are they related, why are they related and to whom, where and when do they apply.[27] The third research question is:

Research question 3: How, why, to whom, where and when do the defined constructs of strategic niche management theory apply to?

In addition to the core research question, the third research question will be complemented by an additional research question. If one is to properly understand the contents of a model, there also has to be a basic understanding of what a model is and how it is constructed. This will provide structure and scientific validity to the model and provide theoretical groundwork for the model construction. The focus of research question 3a which complements the third research question is:

Research question 3a: How is the niche strategy model constructed and what are its main characteristics?

These three main research questions and the two complementary research questions construct the three parts of the thesis. Each part will provide a piece which contributes to the creation of the niche model: the first part analyses the niche in sciences and gives the definition framework, the second part determines the paradigm for the model construction and the third part deals with the construction of the model framework and the methods by which it is constructed. The research methodology will determine the course of investigation and method by which the research questions will be answered.

(3) Research methodology

The research methodology represents a set of procedures by which the research will be conducted. The considerations above have shown that strategic management until now has not been able to completely explain the niche phenomena without abandoning the scientific framework. This thesis will attempt to decrease this deficit with a comprehensive contribution on the topic of the market niche model framework in strategic management. The research methodology and approach will be introduced in the following.

On the basis of the introduced problem formulation and research goals, the thesis will be divided into three main conceptual building blocks besides the introduction and the conclusion (cf. Figure IN-2).

[27] Cf. Whetten (1989), p. 490ff, synthesized after Dubin (1978).

Part I will represent the introduction into the basics of the niche subject. Firstly, in *Chapter I.1* a historical overview of development of niches in sciences in a form of a literature review will serve as an initial introduction into the subject. It will present the path of the niche concept from its roots in natural sciences and its evolution into social and business sciences. This review will already point out some of the deficiencies which can be observed in management sciences. Following the intellectual history of the niche, the second part of the chapter (*Chapter I.2*) will be constructed around various understandings of definitions of a niche. The final result of this chapter will be a clear definition of a niche for strategic management, which will be used as a guideline throughout the course of the thesis.

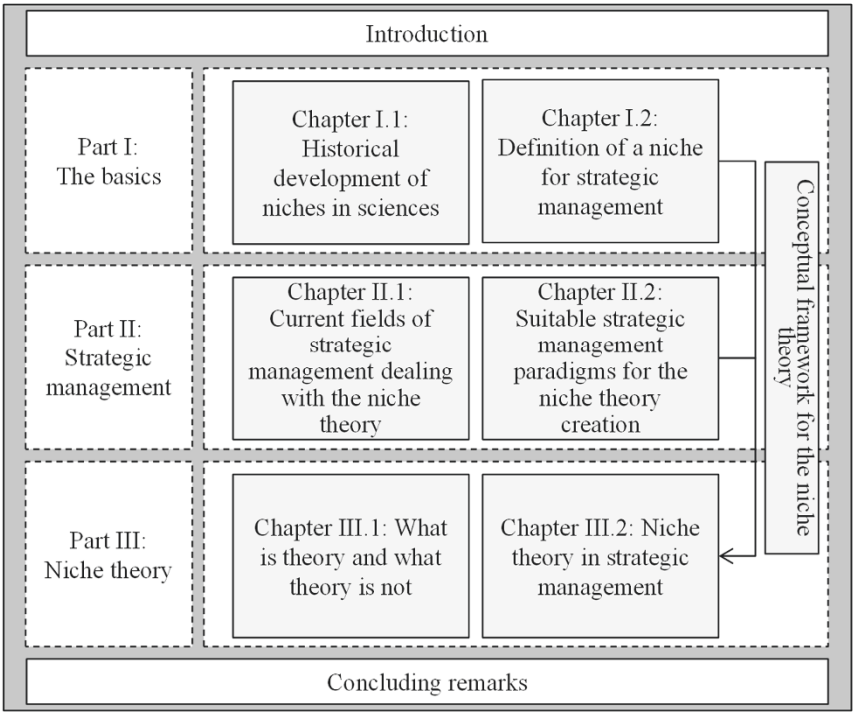

Figure IN-2: Course of investigation

Part 2 focuses on the strategic management paradigm which is used as a theoretical framework for the market niche model construction. For this purpose, the dynamic capabilities paradigm has been selected because of its integrative role amongst the

market-based view and the resource-based view and the core competences which are at the heart of niche strategies. Therefore *Chapter II.1* deals with the historical development of dynamic capabilities. This includes the creation of the paradigm and its role, since it was established from the resource-based view. Following the introduction of the dynamic capabilities is the critical assessment and future development of the dynamic capabilities. *Chapter II.2* deals with the connection of the market-based view and resource-based view with dynamic capabilities. The last part of the chapter deals with the connection of dynamic capabilities with niche strategies. The second part will not be as extensive from the scope point of view but instead it will build the conceptual framework for the market niche model construction together with the first part.

Similarly to the first two parts *Part 3* will be divided into two chapters. *Chapter III.1* will deal with the issue of what a model is and how a model framework is constructed and how this framework can be extended into a strategic management theory for market niches. For this purpose a basic set of theoretical concepts and definitions will be analyzed. Afterwards, the basic premises for model and theory construction will be defined for management sciences. In the last step, critical issues in model construction in management sciences shall be examined. This framework will represent a blueprint for the model construction in strategic management. This blueprint will be applied in *Chapter III.2* where the market niche model for strategic management will be constructed. This will be done with the creation of a hypothesis for the market niche model in strategic management. Firstly, the descriptive and explanatory elements of the market niche model will be defined. After the basic elements are defined, the next set of hypotheses will define the limitations and reach of the market niche model framework. The last part will analyze the implications of the niche model for the construction of a strategic management theory of market niches.

The thesis will end with concluding remarks. At this point the central findings of the thesis will be summarized. The thesis will end with an outlook of implications for the practice and potential implications for further research in this field.

Part I: Fundamentals of niche research

The following part of the thesis is divided into two theme blocks. The first part of the chapter will focus on highlighting the historical development of niches (chapter I.1). This will play an important role in determining the sequence of events which have led to the current research situation. It will offer an explanation of why and how the niche concept made its way from its roots in ecology to social sciences and finally it will explain its use in organizational and management studies, thereby emphasizing the progression of knowledge and the different perspectives that have changed in regards to research in niche studies.

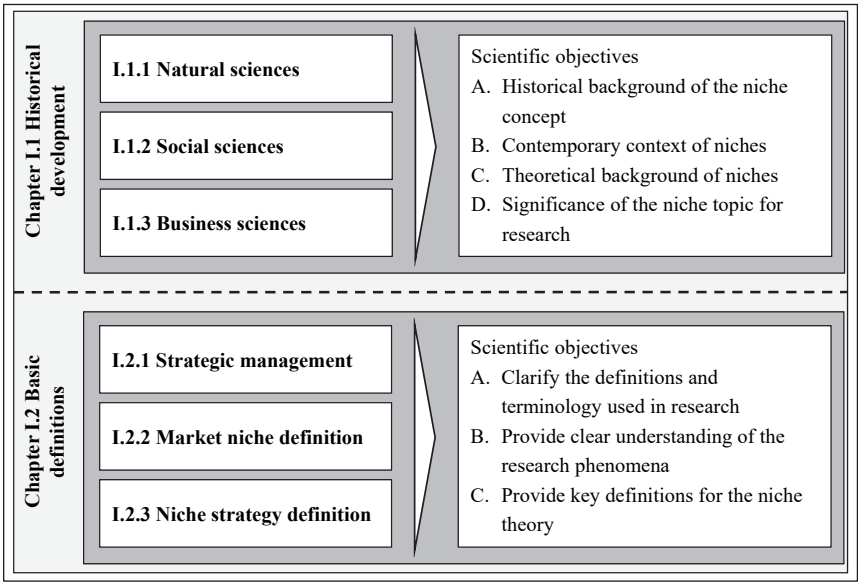

Figure I-1: Structure of Part I

The second part of the chapter (chapter I.2) will focus on clarifying the basic definitions, which will provide the groundwork for the strategic niche management model. As niche studies begin to mature in management sciences, more specifically in strategic management, we are usually left with more questions than answers regarding the different interpretations of the niche. Therefore, the aim is to provide a clear understanding when referring to niches and to explain the different meanings

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and applications of the niche in organizational and management sciences. The second chapter will end the first part with key definitions of the market niche for strategic management.

I.1 Historical development of niches in sciences

The objective of the first chapter is to shed some light on the historical development of the niche concept in sciences. After defining the goals, the approach and method for the review of the existing body of knowledge on the niche subject,[28] the chapter will be divided into three subchapters. The first one will focus on the origins of niches in natural sciences (Subchapter I.1.1), the second subchapter will deal with the cross over into social sciences (Subchapter I.1.2) and finally the last subchapter will deal with niches in organizational and management studies (Subchapter I.1.3).

Besides specialized literature in its own field organizational and management research makes use of a wide body of literature. As the analogies and metaphors from other academic fields are often used to explain a specific phenomena, there is a necessity for an excursion into other disciplines such as biology and social sciences in order to comprehend the niche concept.[29] This will provide a summary, comparison and contrast of the research from the key authors of key ideas and themes.[30] These key ideas and themes from the literature reviewed will be joined into a coherent and cohesive argument, which sets in context and justifies the research on the topic of niches in strategic management.[31] This leads to the objectives

[28] The aim of the literature review is to map and asses the existing intellectual territory in niche studies. Cf. Tranfield et al. (2003), p. 208. The definition of the literature review depends on the emphasis put on its role and purpose in the research objective. Ridley (2008), p. 3. For the purpose of this thesis the literature review will be defined as "The selection of available documents (both published and unpublished) on the topic, which contain information, ideas, data and evidence written from a particular standpoint to fulfill certain aims or express certain views on the nature of the topic and how it is to be investigated, and the effective evaluation of these documents in relation to the research being proposed." (Hart (2007a), p.13).

[29] Cf. Saunders et al. (2007), p. 57; Mingers (2000), p. 219.

[30] Cf. Saunders et al. (2007), p. 61.

[31] Cf.Ridley (2008), p. 2. These arguments will also include four aspects of being critical within the context of the literature review (critique of rhetoric, critique of tradition, critique of authority and critique of objectivity). Mingers (2000), p. 225; Saunders et al. (2007), p. 58; Hart (2007a); 176.

of this chapter that will assist by enlightening the current state of knowledge in niche studies:

- *provide a historical background of the niche concept,*
- *fit the niche concept into a contemporary context of organizational and management research,*
- *provide a theoretical framework for the niche concept in sciences, and*
- *provide the significance of the niche concept for the topic at hand.*

These ideas and themes from each of the three scientific disciplines relevant for research on niches are structured according to the system of science (see Figure I-2). The first chapter will follow the chronological structure of development of niches in sciences starting with natural sciences, followed by social sciences and finally in business sciences.

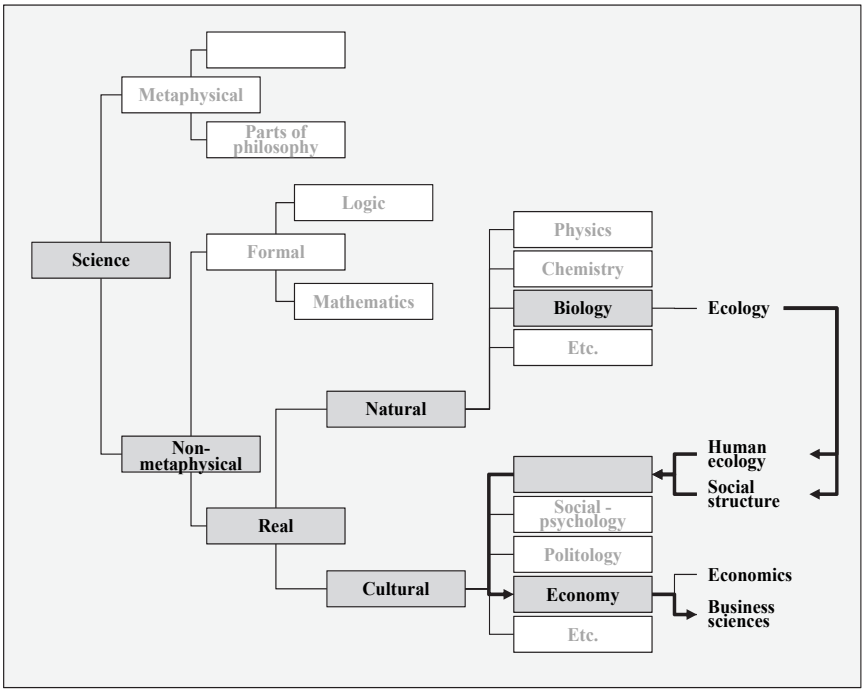

Figure I-2: Niches in the system of science.

(Source: own interpretation after Raffée (1993), p. 23; Zelewski (1994), p. 6)

The comparison of the three scientific fields will show key authors, literature, theories or schools of thought which had a major influence on the development of the field. It will also create links between the different scientific fields as the research from natural sciences strongly influenced the development of niches in social and organizational and management sciences.

The research literature process included both primary and secondary sources.[32] These were mainly comprised of books (textbooks and academic monographs), journals (mainly peer-reviewed and also some non-peer-reviewed) and the World Wide Web. The literature was primarily sorted on the basis of relevance to the subject and secondarily on relevance inside the field based on the number of citations.

I.1.1 The origins of niches in natural sciences

The etymological origin of the word niche can be traced back to the Old French language where the word was *nicher*; meaning to make a nest.[33] Nowadays, the word niche has different meanings, ranging from a recess in a wall for holding a statue or urn, to a person's situation that suits their abilities to more of a business application, where it focuses on a specialized area of demand for a product or service.[34] However, the focus of the niche in the following three sub-paragraphs will be on its meaning and application in ecology. Before full attention can be turned to this topic, there will first be a short placement of ecology into the scope of sciences, first of all in natural sciences and afterwards into biology.

The origins of niches can be traced back to natural sciences. The idea of natural sciences is tied to the naturalistic approach of studying the universe, which is characterized by following the rules or laws of natural origin. A second application of natural sciences is tied to the use of the scientific method. Fields of science apply the use of a scientific method to study human behavior and society. This separates

[32] Whereby primary sources are defined as the literature produced by authors who originally conducted the research on a particular topic or formulated the theory contained in the literature. Secondary sources are, literature where the author was not a direct observer or participant in the creation of the original concept or idea being described. Cf. Gall et al. (2003), p. 92; Bryant (2004), p. 69.

[33] Coming from the Latin word *nīdus*, nest. Cf. Hoad (1993), p. 312.

[34] Cf. N.U. (2000a).

natural sciences from other disciplines such as mathematics and logic, which apply a different methodology.[35]

Biology is a branch of the natural sciences on the study of life, which studies living organisms and how they interact with each other and their environment.[36] Biology as a whole, which is a vast field, examines the structure, function, growth, origin, evolution, and distribution of living things both past and present. It classifies and describes the various forms of organisms, how organisms function, how species come into existence and the interactions they have with each other and with the natural environment.[37] To be able to study these relationships, biology uses the scientific method to gain data about the world, by developing potential answers to questions which are then tested to determine the validity of the proposed solutions. Biological sciences can generally be summoned into three main core components; the study of plants called botany, the study of animals called zoology and the study of microorganisms called microbiology. These three disciplines can be broken down even further based on the level of detail used to study these organisms and the different methods applied to study them. The detailed fields are; biochemistry, cellular biology, physiology and ecology.[38]

As mentioned above, ecology presents a sub branch of biology and is the scientific study that studies the relationship between organisms and their environments.[39] The term ecology or Ökologie was first used by the German biologist Ernst Haeckel in 1866 when he defined it as the science of relationships of the organism to the surrounding outer world (Haeckel (1866), p. 286). A very important word in the definition above is the word environment and its meaning in the ecological sense.

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[35] Cf. Hardy (1992), p. 120f; Knight (2004), p. 4ff.

[36] The word biology comes from the Greek language, bio meaning life and logos meaning knowledge. There is some controversy in the scientific community regarding the definition of life, for the following definition of biology, life will be defined as: "An organized genetic unit capable of metabolism, reproduction, and evolution." (Purves (2004), p. 2). Cf. Enger et al. (2009), p. 21.

[37] Cf. Campbell et al. (2006), p. 2f.

[38] The main building blocks of the scientific method can be summarized into four core components: 1) accurate and diligent observation, 2) formation and testing of hypothesis, 3) candidness for new information and ideas, and 4) being able to submit own ideas to the assessment of others. These components are interlinked and do not necessarily have to be followed in this particular order. Cf. Enger et al. (2009), p. 3.

[39] The term ecology has its etymological origins in the Greek language from *oikos*, meaning the family household and *logy*, meaning the study of. Cf. Smith/Smith (2006), p. 3. Enger et al. (2009), p. 312; Friederichs (1958), p. 154; Balgooyen (Nov., 1973), p. 1200.

It is important to understand that the environment is not only comprised of the physical conditions but also from the living factors that surround the organism.[40] The living factors that affect an organism are called biotic, and the nonliving factors are called abiotic.[41] These biotic and abiotic conditions affecting the organism can be analyzed on different levels; individual, population, community and ecosystem. The individual level looks at singular organisms and analyzes their interactions with their area of living while population is a group of individuals of the same species that occupy a certain area[42] and the community is the mutual coexistence of different species living and interacting within an ecosystem, which is made up of all interacting communities in an area and their interactions with their abiotic environment.[43]

After this short introduction, the role of ecology in sciences can be grasped better which is important for understanding the primary role of the niche and also for the spillover from ecology to social sciences. In the following three points, there will firstly be an analysis of the *(1) primary use and the meaning of the word niche*, which will be followed by the *(2) formalization, enhancements and the decline of the niche concept*, and concluded by the *(3) reformulation of the niche concept*, before moving on to social sciences.

(1) Primary use and meaning of the niche

The first point will explore the introduction of the term niche into sciences. Main attention will be put on the pioneers who coined the expression in biology and how the niche was understood, applied and what were some of the critiques of niches. Besides the explanation of why the niche was first use its importance for further research will be elaborated as well.

The concept of the niche was first introduced in 1917 in a paper by Joseph Grinnell,[44] who was a field biologist and zoologist and is also credited with the

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[40] Cf. Smith/Smith (2006), p. 3.

[41] Cf. Enger et al. (2009), p. 312. Under the term abiotic there can be factors such as water, light, temperature, wind and others, and biotic factors include all other living organisms, that inhabit the same area as the species. Purves (2004), p. 1025.

[42] The relationships between populations may differ as some populations compete for the same scarce resources or one population may be the food source of the other. Cf. Smith/Smith (2006), p. 5.

[43] Cf. Smith/Smith (2006), p. 5; Enger et al. (2009), p. 313.

[44] „These various circumstances, (…), go to demonstrate the nature of the ultimate associational niche occupied by the California Thrasher." (Grinnell (1917b), p. 433). The

introduction of the ecological niche. He used the word niche to describe an animal's geographical position and factors which limit its range on the example of the California Thrasher (see appendix A-1).[45] Although he never mentioned the niche explicitly, Grinnell began to develop the idea of the niche in a much earlier paper, where he researched the food habits and limitation of food supply of animals.[46] His efforts came full circle in 1928 when he defined the ecological niche as:

"(…) the concept of the ultimate distributional unit, within which each species is held by its structural and instinctive limitation, these being subject to only slow modification down through time." (Grinnell (1928), p. 435).

The first part of the definition, where the niche is mentioned as the ultimate distributional unit applies the niche as a habitat concept in which the niche takes the role of a structural item or the foundation of the ecological community. The second part describes the particularly uniqueness of the niche. This was already pointing to a principle that would later become known as the competitive exclusion principle and its role as a unit of geographical distribution.[47] The work of Grinnell was important for the further development of the field in two ways. Firstly, it was the distributional nature of the niche, which he used to explain the distribution of species over a geographical area. Secondly, he used the distribution of species under

use of the word niche by Grinnell is probably due to the fact, that at the time, he was studying the bird populations in California and where they reside. The word niche was used in its original etymological context meaning to nest, as where the bird population in question nested.

[45] Cf. Grinnell (1917b), p. 433.

[46] He argued that no two species with similar food habits can remain evenly balanced in the same region. The species which is better suited for the local conditions would survive at the expense of the less fitted rival. Cf. Grinnell (1904), p 375ff.

[47] Cf. Patten (1980), p. 157. „No two species in the same general territory can occupy for long identically the same ecological niche. If, by chance, the vagaries of distributional movement result in introducing into a new territory the ecological homologue of a species already endemic in that territory, competitive displacement of one of the species by the other is bound to take place. Perfect balance is inconceivable." (Grinnell (1928), p. 436).

the ceteris paribus assumption; which is the absence of interaction with other species.[48] His work has pioneered the field of the ecological niche, with the pre-interactive conception of the niche as the position of a species in an environment in which it can thrive as opposed to the environment in which it actually resides.[49]

Charles Elton was an English zoologist and animal ecologist and the so called founder of the "Eltonian" niche in ecology. His main contributions to the ecological niche was in 1927 and Animal Ecology,[50] where he defined the niche as the term that describes the status of an animal in the community not only to describe what an animal does but also what it looks like. He complemented this definition with two additional explanations; firstly; where he describes the niche of an animal as its place in the biotic environment, and its relation to food and enemies, and secondly; that an animal's size and its food habits can widely be defined by its niche[51]. Elton focused on the niche as a function of a species; he defines this function through the species relation to the ecological community. He saw the niche as an organizational structure system in which the niche is a unit of a structure that can be applied in various systems and the niche represents a distributional concept as well.[52] This was a big step forward in comparison to Grinnell; Elton defined the niche as a post-interactive concept, where he argued that the niche of an animal is the environment in which it actually resides.[53]

An important finding for the further development of the ecological niche was the competitive exclusion principle better known as the Gause principle, which is one of the main concepts in population ecology. The principle was first developed

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[48] Grinnell argued that (1) each animal occupies a given area, that includes a habitat or a range, which can be used to describe its characteristics, along with its food habits and physical features, (2) species differ in the area that they cover, ranging from species, that cover great areas of a habitat, to species that are local or limited in their distribution, (3) many species can be located within the borders of the range of their habitat. Cf. Grinnell (1917a), p. 115.

[49] Cf. Vandermeer (1972), p. 107.

[50] Besides the definition ecological niche, he also made important strides for animal community regarding food chains and the food cycle, the size of food and the pyramid of numbers. Cf. Hardy (1968), p. 4; Macfadyen (1992), p. 501.

[51] Cf. Elton (2001), p. 63f.

[52] Cf. Patten (1980), p. 157.

[53] Elton also argued that the animal selects its own environment in contrast to the prior popular theory of the natural selection of the animal by the environment. This meant that the chances of an animal finding an appropriate niche, in which it can reside, increased dramatically.

by Italian mathematical biologist Vito Volterra.[54] Although Volterra first developed the concept, it was Gause who extended the concept from two species competing for the same ecological niche to a number of species competing for more ecological niches.[55] As a result of this competition all but one species competing in the same ecological niche will parish.[56] This concept achieved maturity with Hardin's 1960 definition of the competitive exclusion principle, where he said that no two populations that occupy exactly the same ecological niche and thereby also inhabit the same geographic area, and if population A reproduces even slightly faster than population B, then population A will completely displace population B and B will become extinct.[57] Since its introduction the competitive exclusion principle has been subject to criticism from other authors, who conducted a number of field studies to prove the violation of this theory.[58] This has led to a number of limiting assumptions for the competitive exclusion principle.[59]

Despite the criticism, the competitive exclusion principle is still one most important and studied laws of nature. This theorem also had two significant implications for the future development of niches. Firstly, as already mentioned in the introduction section of this chapter, many species live together in communities and their survival in the community depends on the type of niche they occupy or how their niche differs from the niche of other populations. Meaning that the survival of

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[54] Volterra used mathematical models to prove that two species which require the finite food resource for their survival, cannot coexist, consequently meaning that one of the species will be eliminated. Cf. Volterra (1926), p. 558f; Volterra (1928), p. 7ff.

[55] Cf. Rescigno/Richardson (1965), p. 85.

[56] "It is admitted that as a result of competition two similar species scarcely ever occupy similar niches, but displace each other in such a manner that each takes possession of certain peculiar kinds of food and models of life in which it has an advantage over its competitor." (Gause (2003), p. 19).

[57] Hardin also made some additional assumptions to the exclusion principle, to increase the validity. Firstly, the two populations in question cannot be interbreeding. Secondly, the ecological niche defined in the principle had the same understanding as Elton's niche. And finally, that there is a distinction of a weak and strong form of the principle, based on inclusion or exclusion of the last condition of population reproduction. The weak form includes this condition, and the strong form does not, because of the axiom of inequality, which states that no two things are completely equal. Cf Hardin (1960) p. 1292.

[58] These efforts have been mainly focused on finding examples of species where the Gause principle does not apply. Cf. Ayala (1969), p. 1078.

[59] These assumptions include: resource seasonality, resource seasonality along with immigration, environmental fluctuations, density-dependent competitive abilities, errors of exploitation and habitat patchiness. Cf. Fahrig (1988), p. 130.

the species in a community depends on the type of resource it uses the place and time when it performs its activities in the community, how it interacts with other species, or how the population of the species is controlled within the community. Secondly, the niche difference described above enables the coexistence of species in communities through the evolution of species diversity.[60]

From its earliest use the niche was associated with two things, which would also be key for its development in business sciences. Firstly, the niche was seen as a geographical area in which animals can survive and thrive. Secondly, through the competitive exclusion principle, the niche was also brought in association with competition. After clarifying the origins of niches and its primary meaning the next point will look into how the niche concept was formalized and expanded.

(2) Formalization, enhancements and the decline of the niche concept

Based on the pioneering work done by the authors who brought the niche concept on the map in biology, this point will focus on how the niche was firmly established in natural sciences. Besides the formalization main critique points which led to a decline in niche research will also be examined.

It was not until a couple of decades later that the niche concept reached maturity, when Evelyn Hutchinson developed the formalization of the ecological niche as a hyperspace, a concept that sparked a revolution in niche theory and in the field of ecology.[61] Hutchinson defined the niche as:

"The term niche (…) is here defined as the sum of all environmental factors acting on the organism; the niche thus defined is a region of an n-dimensional hyper-space, comparable to the phase-space of statistical mechanics." (Hutchinson (1944), p. 20).

The basis for his niche theory was the idea of using hyperspace as a geometric technique to demonstrate data from the environment.[62] He upgraded the previous research of Grinnell and Elton, by not only measuring the geographical position of a species, but also different environmental variables such as temperature, salinity,

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[60] Cf. Whittaker/Levin (1975), p. 3.

[61] His definition was leaning on the niche understanding as defined by Gause as opposed to the generally accepted understanding of the niche by Elton. Cf. Hutchinson (1944), p. 20.

[62] The main advantage with the application of geometric objects for determining ecological niches, is the use of various mathematical concepts, such as set theory and bases that span a space among others. Cf. Haefner (1980), p. 125.

and predator concentrations among others. By assigning these variables to different axes, and plotting the data on these axes, he was able to create a multi-dimensional hyperspace.[63] Although this approach was very interesting from a mathematical point of view it did not add much value to the scientific concept of the niche except for the presentation of the data. This definition was further developed in 1957, where Hutchinson introduced the concept of the fundamental and the realized niche. He proved that the conditions in which species could viably live are often greater than those where the organism actually lives. This situation is typically the consequence of interactions with other living organisms.[64] Thus the fundamental niche can be defined as all aspects of the n-dimensional hyper-volume in the absence of other species in which an organism can exist. The realized niche on the other hand is the part of the fundamental niche to which the species was restricted due to interspecific interactions with other species.[65] This definition was an important step towards understanding the complexity of the niche. Hutchinson's niche solved the long lasting problem of the three different approaches to niches in ecology; the niche as morphological features (life form) of a species, the niche as the activities and responses (behavior) of a species and the niche as an operational environment (habitat) of a species.[66] It was now possible to map all three approaches in the multidimensional hyperspace.

As Haefner later pointed out several deficiencies with the geometric method were used by Hutchinson for the definition of the niche. He first argues that the niche has not reached its functional peak in ecology because it is still not free of conceptual and formal deficiencies. The second one was the failure to recognize the

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[63] Cf. Popielarz (2007), p. 67; Hardesty (1975), p. 71; Silvert (1994). These axes represent the various biotic and abiotic factors in a community, which produce different responses from the populations of the community. Colwell/Fuentes (1975), p. 283.

[64] Cf. Vandermeer (1972), p. 109; Rejmánek/Jeník (1975), p. 104; Alley (1982), p. 165; Colwell/Fuentes (1975), p. 284.

[65] Cf. Hutchinson (1957), p. 416ff. To develop the theory Hutchinson used four limiting factors: 1. It is assumed that all points in each fundamental niche show equal chance of organism survival, and the points outside this fundamental niche zero chance for organism survival, 2. It is assumed, that it is possible to linearly order all environmental variables, 3. The model is set to a single point in time, 4. Only some species are to be researched at once, as their inclusion makes little difference to the entire community. Hutchinson (1957), p. 417. The definition of the fundamental and realize niche was later complemented by Vandermeer. Vandermeer (1972), p. 110f.

[66] According to these new facts, Rejmanek provided a new definition of the niche: "(…)as the total of relationships between a living organism (population, species) and its complete environment, both biotic and abiotic." (Rejmánek/Jeník (1975), p. 104).

importance of the life cycle of the organism. The next deficiency was the previously absent aspect of the appearance of species in the geometric metaphor, which is in contention with the observable characteristics of the niche. The majority of niche definitions apply to several ecological levels such as individuals, populations, species and ecosystems. On the other hand, Hutchinson held firmly to the definition of the niche as a characteristic of a species. Finally, Heafner argued that the multidimensional hyperspace can stay manageable and easily manipulated for up to four axes dimensions and renders it useless for more dimensions.[67]

Despite this criticism, Hutchinson's niche remained the main concept, as this formalization enabled the first measurements of the niche. Following the work of Hutchinson, a group of authors led by Levins, MacArthur, Pianka, Roughgarden and Colwell studied the aspect of competition as it was becoming the main lever that was driving ecology. They designed a group of theoretical models that investigated how many and how similar species could exist within a given community. The focus was on measuring niche breath, niche partitioning, niche overlap and niche assembly.[68] Levins defined the niche as a fitness measure in an environment space, with the measures of niche breadth, dimension, overlap, and community diversity, which are the adequate determinants for the niche and community.[69] Afterwards, Levins and Colwell made niche measurements in nature so that vigorous activity in the field of the ecological niche theory was created.

This period was followed by the decline of the niche concept in ecology. The three major critique points were:

- that competition is not necessarily the driving force in ecology,
- that the niche theory lacks an adequate null hypothesis and statistical rigor and
- that the use of the term niche was not consistent and ambiguous.

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[67] Cf. Haefner (1980), p. 126ff.

[68] Niche breath is the variety of resources or habitats used by a species, niche partitioning is the degree of differential resource use by coexisting species, niche overlap represents the mutual resource use by different species and niche assembly is the colonization and organization of species in new or abandoned habitats. Cf. Pianka (2000), p. 279f.

[69] Levins also developed a set of questions, which the niche theory has to answer and these questions regarded the following subjects: degree of specialization, determinants of species diversity, species coexistence, environmental division of species, and the species effects on evolution of other species within a community. Cf. Levins (1968), p. 39f.

The first point of the critique was developed by Simberloff and Wilson researching the colonization of island populations, where they said that the extinction of a species was not the result of interaction with other species but rather the inability to colonize the environment under any conditions.[70] They argued further that the competition for limited resources does not affect the immigration rates of populations, which is contrary to prior belief that higher immigration could only be balanced by a higher extinction rate with the equilibrium of the species remaining unchanged.[71] The second critique point in which Connor and Simberloff argue that the use of biographic data to show intraspecific competition on islands, fails to provide and test a null hypothesis and that the test of the null hypothesis for several species living on the mainland and islands provides no cause for the rejection of the null hypothesis.[72] The third critique point addresses the use of the term niche and its consistency, as it can be used from three different viewpoints, depending on the focus of research. The first view is from the living environment of the organism, the second is from morphological attributes of the organism and the third viewpoint is from the external activities performed by the organism.[73]

The result of this critique led to the emergence of the so called *unified neutral theory of biodiversity and biogeography*,[74] which was pioneered by American ecologist Stephen Hubbel. The aim of this theory is to explain the diversity and relative abundance of species in ecological communities, although like other neutral theories of ecology, Hubbell's theory assumes that the differences between members of an ecological community of tropically similar species are "neutral," or irrelevant to

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[70] Cf. Simberloff/Wilson (1969), p. 289. "(…) species equilibria reached before the extinction rates could be greatly influenced by interspecific interactions such as predation and competition (…)". (Simberloff/Wilson (1970), p. 934).

[71] Cf. Simberloff (1974), p. 173; Johnson/Hubbell (1975), p. 1389; Hubbell/Johnson (1977), p. 949.

[72] Cf. Connor/Simberloff (1979), p. 1138. This critique was an answer to the assumption made by Diamond in 1975, where he assumed that competition was the primary cause of species interactions and later looked to rationalize the data based on this assumption. Cody (1979), p. 342f.

[73] Cf. Rejmánek/Jeník (1975), p. 101.

[74] Neutrality in this context can be defined as the distinction in the characteristics of species and does not influence the possibilities of a species being present or absent in a given community, it also does not influence the changes in the total number of given species. The neutral theory is a set of mathematical theories that formalize the hypothesis of neutrality, hereby triggering the possibility of quantitative predictions on the number of species, their relationships to the environment and other viewpoints of the community organization. Cf. Holt (2006), p. 2.

their success.[75] The main axiom of this theory was in contrast to mainstream ecology which is built on the assumption that species differ in niches. These differences in the niche lead to species limiting their own population more than they limit other populations and hereby promoting the coexistence of different species. Neutral theory builds upon the assumption that species do not differ in their fitness and the influence they have on each other. The main elements of the niche that were driving the research in ecology in the last century are obsolete in the neutral model, where the only driver of the population dynamics is the variation in birth, death and dispersal rate.[76] The main issue with the neutral theory is its core assumption that the differences between species do not matter. Ignoring these differences makes it impossible for the neutral theory to deal with ecosystem characteristics.[77]

The importance of the neutral theory for the niche theory was not in its criticism but rather in the things that are said about the niches of species.[78] This means that the complementary nature of emphasis of each theory leads to a better and more founded understanding of the other theory. By placing the neutral theory within the classic coexistence theory this leads to the realization that the main laws regarding neutrality are well established. On the other hand, the neutral theory leads to a refinement of the niche paradigm by focusing on fitness equivalence and making reference to the point that the niche differences in many communities are not as big as originally assumed.[79]

The niche achieved its formalization as a multidimensional hyperspace, however the main critique points also represented the decline in niche research in ecology. Much of the critique of the niches in ecology is similar to the critique of the niches in business sciences, especially the points about statistical rigor, consistency and ambiguity. Next stage in the development of niches in natural sciences is the return to prominence with the reformulation of the niche concept which is described in the next point.

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[75] Cf. Hubbell (2006), p. 1387; Jr. Leigh (2007), p. 2075; McGill et al. (2006), p. 1411; Ricklefs (2006), p. 1424.

[76] Cf. Adler et al. (2007), p. 95.

[77] Whereby the use of the neutral theory restricts itself to (1) employment of a null hypothesis, (2) fields where neutrality dominates, (3) trying to resolve otherwise inaccessible subjects, (4) forecasts exceeding the hypothesis of the neutral theory, which requires a more life-like deduction. Cf. Jr. Leigh (2007), p. 2085.

[78] Specific species attributes such as physiological permissiveness, breeding strategies, dispersal abilities and body size are not included in the neutral theory. Cf. Gaston/Chown (2005), p. 2.

[79] Cf. Adler et al. (2007), p. 103.

(3) The reformulation of the niche concept

In the third point niches in natural sciences will be examined from a more contemporary point of view. The focus will be placed on the new advances made in the niche concept and on enhancements and clarifications made to the already existing body of literature.

The contemporary approaches to the niche concept are mainly based on new insights gained from the research done by Odling-Smee et al on niche construction, and Chase and Leibold's reconfiguration of the niche and neutral theory.

Odling and Smee's work is based on the role of the organisms in the environment. They do not take the classical view of natural selection which has been vastly researched and empirically tested in the past decades but instead the focus is on a point of view that received far less attention from the scientific community; namely the interaction of a organism with the environment. In this interaction the environment organisms influence some processes of the natural selection, which take place in their own local environments. This interaction called *"niche construction"* by the authors, where an organism alters its environment or that of other species with the environment and phenotypes of organisms in the process of evolution, is not sufficiently enlightened or as described in the title of their book it is "*The neglected process in evolution"*.[80]

[80] Cf. Odling-Smee et al. (2003), p. 1; Aaron M.Ellison (2004), p. 881f.

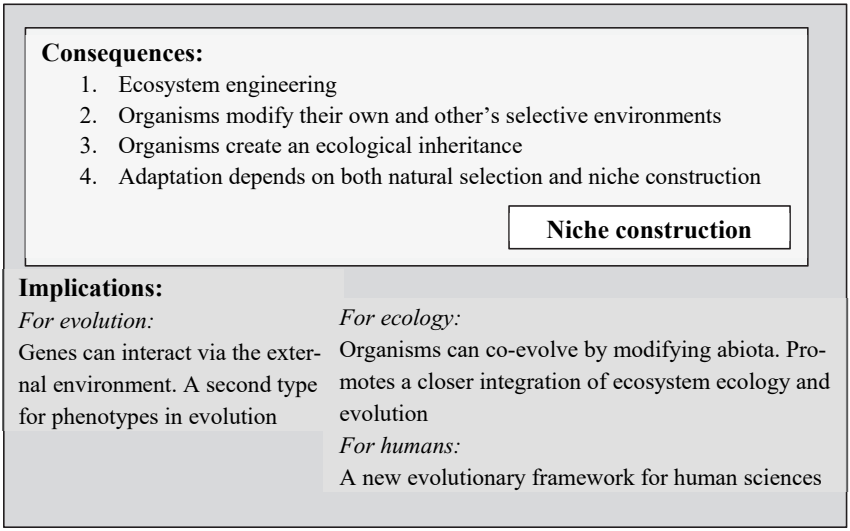

Figure I-3: Niche construction: its consequences and implications.
(Cf. Odling-Smee et al. (2003), p. 3.)

The objective of the authors was to place niche construction alongside natural selection as the second key contributor of evolution and thereby making a path for the development of new theories and contributing towards a better understanding of the evolutionary process (see figure I-3).

Chase and Leibold took a different approach to the niche concept, which enabled them to provide a synthesis of the previous research on the topic and translate it into a common language, clear some previous misinterpretations regarding the concept and offer new findings and interpretations about the ecological patterns and processes. The primary issue was the inclusion of different processes and not only the competition for resources. Another major issue was to clarify the difference between the matters relating to an organism's response to the environment and how matters relate to the way the organism effects and changes its environment. The last issue relates to the relevance of the niche to different spatial scales, which need to be made more important at larger scales and not just narrow scales, as current practice dictates.[81] On the basis of these findings, Chase and Leibold proposed a new contemporary definition of the niche concept. It is a more general definition of the

[81] Cf. Chase/Leibold (2003), p. 14; Leibold/McPeek (2006), p. 1402.

concept, which consolidates the different interpretations of the concept, whereby the niche is defined as:[82]

> "(…) the joint description of the environmental conditions that allow a species to satisfy its minimum requirements so that the birth rate of a local population is equal to or greater than its death rate along with the set of per capita effects of that species on these environmental conditions." (Chase/Leibold (2003), p. 15)

The findings of Chase and Leibold can be summarized in a consolidated framework that gives a deeper understanding of the following categories, regarding the niche concept:[83]

- community assembly and the role of the structural elements in this assembly,
- community structure from the viewpoint of local and regional spatial scales,
- the relationship between context dependence and its effect on species interactions and
- species sorting, in regards to the connection between the larger scale biotas and changes in the local communities and ecosystems.

The last contribution from Chase and Leibold was the development of the neutral theory, where they researched the relationships between the way species respond and affect different areas of their natural environment. The objective was to map a pragmatic and simple to understand framework, which is based on niche demands and effects.[84]

To summarize the development of the niche theory in ecology before moving on to the foundations made in natural sciences to social sciences, it is possible to trace the beginnings of the niche theory to Grinnell and Elton. Following their groundwork, the Gause's competitive exclusion principle was perhaps the only law of nature ever to be proposed in ecology. Hutchinson's stringent formalization of the concept paved the way for attempts at applying such theory in nature, simultaneously and independently, made originally by Levins and Colwell and later followed by others. Contemporary research led by Odling and Smee focused on the role of the organism in its environment. On the other hand Chase and Leibold research build on a synthesis and common understanding of previous research which

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[82] A second definition was also created, but its aim was to address a number of graphical and analytical models in ecology.
[83] Cf. Chase/Leibold (2003), p. 176.
[84] Cf. Aaron M.Ellison (2004), p. 880f; Chase/Leibold (2003), p. 178f.

led to the development of the neutral theory. The next sub-chapter analyzes how the niche gained its place in social sciences.

I.1.2 Social sciences

The literature review continues with an overview of niches in social sciences. Following the structure of the previous chapter there will first be a short introduction of social sciences and sociology before moving on to the niche concept.

Social sciences comprise academic disciplines concerned with the study of the social life of human groups and individuals including anthropology, communication studies, criminology, economics, geography, history, political science, psychology, social studies, and sociology.[85] The main difference between natural and social sciences is the primary focus of research. Natural sciences concern itself with detailed and exact specification of consistent, iterative sequence of events, which can therefore be predicted in nature. Therefore the gathered scientific knowledge is based on the experience in the form that can be determined by senses and the logical conclusions derived from these experiences.[86] Social sciences on the other hand are a variety of organized academic and applied disciplines, which try to explain the behavior and social relations of human beings with the application of the scientific method.[87] However, these two branches of science became much more interrelated with the progression of inderdisciplinarity between natural and social sciences.[88]

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[85] Cf. Black (1993), p. 1. Science is defined as: "(…) the use of systematic methods of empirical investigation, the analysis of data, theoretical thinking and the logical assessment of arguments to develop a body of knowledge about a particular subject matter." (Giddens (2008), p. 78).

[86] Cf. Bain (1947), p. 9f.

[87] Cf. Treiman/Smelser (1982), p. 6. The main deficiency of social sciences stems from the fact that social science research considers many variables, of which not all can be controlled. Unlike the research in natural sciences which usually takes place in a laboratory, where control over variable contributing factors is much easier to achieve. In addition, social science also has to battle with the low level of consensus in social sciences on common theories, complicated measuring instruments and research tools that are applied, and the various schools of thought regarding the conducted research. Black (1993), p. 1f; Law (2006), p. 7f.

[88] Cf. Lattuca (2001), p. 10. "Interdisciplinary research is a mode of research by teams or individuals that integrates information, data, techniques, tools, perspectives, concepts and/ or theories from two or more disciplines or bodies of specialized knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline area or research practice." (N.U. (2005), p. 2).

Social sciences started applying concepts form natural sciences to social sciences in order to research the social phenomena. This interdisciplinarity was also key for the study of the niche concept in social sciences.

Sociology is the science that examines the study of social groups, how their internal forms of organization look, the processes that modify or sustain these organizational forms and the relationships between these groups.[89] Sociology is one of the youngest academic disciplines, its foundation can be traced back to the middle of the nineteenth century when the word was first coined by August Comte and marked by the works of Marx, Weber and Durkheim. The growth of sociology can be attributed to many overlaps with other disciplines, but it does not just overlap, it also exceeds the borders of traditional social science disciplines with many excursions into natural sciences. Therefore many concepts which find their origin in sociology have been adopted by other disciplines. The first research methods in sociology were quite simple and descriptive, but the period over the last fifty years has seen a shift towards more rigorous formulations of hypotheses, larger and better data sets, complex statistical models amongst others, which has led to an improved standard of scientific rigor in sociology.[90] This development also coincides with the maturation of social sciences and the greater level of detail, placed on methodological rigor.[91] This will also be noticeable in the following chapter as the research applied to the study of the niche in sociology often deals with methods developed in natural sciences. The methodological rigor and detail also gained steam towards the end of the twentieth century.

The origins of niches in sociology can be traced back to the theoretical foundations laid by Georg Simmel.[92] He was one of the first generations of German

[89] Cf. Johnson (1998), p. 2; Giddens (2008), p. 4. Therefore sociology is, similar to the human society, meaning that it is varied, contested and ever changing, this makes sociology very difficult to look at from a single perspective and to describe with closure. Cf Calhoun (2005), p. 1.

[90] Cf. Calhoun (2005), p. 15; Stolley (2005), p. 11.

[91] Sociology can be characterized as *empirical* in the sense that is based on observation and reasoning and its results are not based on speculation, *theoretical* as it tries to explain complex occurrences in logical and connected propositions, *cumulative* that new research builds on previous theories or work, *nonethical* in the sense that it does not make the distinction between good or bad actions, but only tries to explain them. Cf. Johnson (1998), p. 2.

[92] For Simmel's main contributions in sociology see Simmel (1950); Simmel ((1908) 1968); Simmel (1955b); Simmel (1896). It was the basic philosophy of Simmel that man should strive to gain knowledge, to make better decisions which would enable a more successful way of life. Cf. Helle (2001), p. 111.

sociologists at the beginning of the twentieth century. He studied philosophy and history at the University of Berlin, where he chose to stay after his studies were finished as an unpaid lecturer whose income depended on student fees.[93] His main contributions to sociology were on the topics of social structure and social network analysis. He went away from the organist and idealist views of society, which were represented by the work of Comte and Spencer. According to Simmel, society is made up of a complex network of relationships between individuals who consistently interact with one another. This interaction and various patterns and forms of this interaction, are at the center of the study of society.[94] His work pioneered the concepts which would later become the two of the main branches of sociological thought; the first one dealing with *human ecology* and the second one with *social structure*.[95]

After laying the groundwork of the basic concepts and placing the focus of the analysis on sociology, the next step will be to evaluate the role and development in the two sociological schools of thought mentioned above; *(1) The niche in human ecology*, and *(2) The role of the niche in social structure*, and to finish the excursion into social sciences, the final point will deal with the *(3) niche in contemporary sociology*.

(1) The niche in human ecology

First point of niches in social sciences will address the issues in human ecology. Before focusing on the role of the niche in human ecology there will be a short introduction into human ecology. The main part of the chapter will be centered around the development of the niche concept in human ecology and its parallels to the niche in business sciences.

The definition of human ecology is similar to the definition of ecology from the previous paragraph. It can be described as the study that deals with humans and human societies and analyses their complex interactions with other biotic and abiotic components of the environment, which are ever changing.[96] It is concerned

[93] Cf. Coser (2003), p. 195.
[94] Cf. Coser (2003), p. 178.
[95] Cf. Popielarz (2007), p. 67.
[96] Cf. Campbell (1995), p. 7; Steiner (2002), p. 3. The study of human ecology in itself is an interdisciplinary field, as it brings together multiple fields or research involved in the

with the way that individuals act as a group in order to achieve better use of their habitat.[97]

The niche in sociology started to develop in human ecology with the main idea from Simmel's essay *The Metropolis and Mental Life* which was summarized and developed by Robert E. Park.[98] Park studied together with Simmel in 1899-1900 at the University of Berlin. Robert Park was later one of the main founders of the Chicago school of sociology.[99] Park described the city as not only a physical mechanism of artificial construction but saw it more as a process of the people who live in it, thereby making it a product of human nature.[100] Roderick McKenzie one of the contributors to Park's 1925 publication *The City*, brought the ideas from Chicago to the University of Michigan. He began working on a project extending beyond the urban context, which was due to McKenzie's untimely death and finished by Amos Hawley a student of his in 1950 under the name Human Ecology. This volume can be summarized as the first effort to formulate a coherent theory of human ecology since the 1920's when the ideas of plant and animal geologists were applied to human society.[101] In his later work, Hawley discovered that the prevailing occupation with spatial distribution became a theoretical dead end. Instead, Hawley came to the conclusion by gaining inspiration from works of biologist such as Elton, Braun-Blanquet, Allee and others that the adaptation to the environment is a collective phenomenon. The environment was to this point left out of the empirical research in human ecology mainly because of its breadth and Hawley put the environment at the center of discussions as the ultimate source of livelihood for a

study of individuals and groups, environments as the setting for life and resources, individual and family life and other disciplines concerned with human development, values and the human ecosystem. Miller (2003), p. ix.

97 Cf. Micklin (1998), p. 28.

98 "The deepest problems of modern life flow from the attempt of the individual to maintain the independence and individuality of their existence against sovereign powers of society, against the weight of the historical heritage and the external culture and technique of life." (Bridge/Watson (2007), p. 11). Here Simmel argues that human behavior is formed by its environment and he mentioned three core themes, which are size, division of labor and money or rationality. Cf. Saunders (1995), p. 56.

99 Park and Thomas were one of the leading contributors to the Chicago school of sociology. The focus of this school was on empirical research and gaining insight into the research done in the contemporary world. The trademark was the implementation of first hand research with general ideas as part of an organized program. Cf. Bulmer (1986), p. 2f.

100 Cf. Park (1997), p. 1.

101 Cf. Hollingshead (1950), p. 684f.

population.[102] This adaptation to the environment by the population can be accomplished only through organization. This realization has mounted the way for the sociological conception of the niche. His work put human ecology in the domain of sociology as one of the several paradigms.[103]

Hawley's work would later be upgraded by two of his students, Michael Hannan and John Freeman in *The population ecology of organizations*. Their work represents one of the current uses of the niche as a theoretical tool in sociology and defines the niche of an organizational population as:[104]

> "(…) the (realized) niche of a population is defined as that area in constraint space (the space whose dimensions are levels of resources, etc.) in which the population outcompetes all other local populations. The niche, then, consists of all those combinations of resource levels at which the population can survive and reproduce itself." (Hannan/Freeman (1977), p. 948).

The work of Hannan and Freeman takes a strictly ecological approach in the study of organizations. This ecological approach also entails an important theory fragment, which has to be discussed in the scope of their organizational niche the *niche width*.

The fragment theory on niche width distinguishes between the generalist and specialist type of organizations.[105] Specialist organizations maximize their exploitation of the environment and accept the risk of experiencing a change in that environment. On the other hand, generalist organizations accept a lower level of exploitation in return for greater security. Meaning that part of the efficiency resulting from specialism can be attributed to lower requirements for excess capacity[106]. The

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[102] Cf. Micklin (1998), p. 41.

[103] Cf. Hawley (1992), p. 3.

[104] The niche definition of Hannan and Freeman is based on the 1957 definition from Hutchinson, as mentioned in the first paragraph on the development of niches in ecology. Based on this definition, the environmental selection, which means the fit between local conditions in their environments, is the driver by which competing organization manage to survive.

[105] The work of Hannan and Freeman was based on Levin's 1962 "Theory of Fitness in a heterogeneous environment" and 1968 "Evolution in changing environments" which represented an evocative perspective of the theory of niche width. Their approach represented a distinct ecological approach to the research of formal organizations (Cf. Hannan/Freeman (1977), p. 946). The differentiation between generalism versus specialism, is essential to biological ecology and to a population ecology of organizations (Hannan/Freeman (1977), p. 947).

[106] Cf. Hannan/Freeman (1977), p. 948.

niche theory shows that specialism is generally favored in stable or certain environments, hence meaning that generalists will appear inefficient because access capacity will be reasoned as redundant. However, the main contribution of the niche theory is probably the finding that generalism is not always optimal in uncertain environments.[107] Thus, the niche theory explains variations in industry structure in different industries. The theory shows how different structures in different industries (generalist versus specialist organizations) are shaped by relevant environments (see figure I-4).

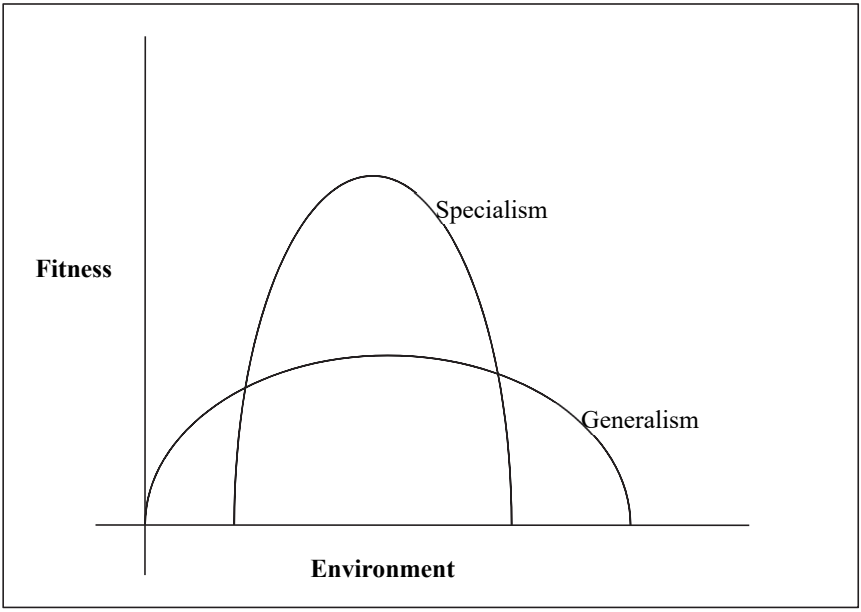

Figure I-4: Generalism vs. Specialism.

(Source: Hannan/Freeman (1977), p. 947)

Another important niche theory fragment which has to be considered in the scope of this review is *resource partitioning*. The previous paragraph showed that the

[107] This is because organizations that try to adapt to every environmental state use up most of their time adapting structure and not enough time on other organizational action. The exception is produced by environments which place very different demands on the organization and the duration of environmental states is short relative to the life of the organization. Cf. Hannan/Freeman (1977), p. 958.

niche width theory deals with the dynamics of environments and how they generate they are generalist or specialist. Resource partitioning on the other hand is concerned with the way markets are usually divided into two non-competing populations of generalists and specialists. In the early stages of the market when there is a saturation of firms, most of them try to generate the largest resource base. The ensuing competition between the firms forces them to differentiate to some degree, although the general strategy upon market entry is usually a generalist strategy. With the progression of economies of scale only a few generalists manage to survive and they move towards the center of the market. The clean out of the market and the move of the generalists towards the center of the market opens up small pockets of resources on the edges of the market in which a specialist can thrive. This leads to the partitioning of the market into generalist and specialist resources.[108]

There are two main contributions which human ecology has made for the development of niches in business sciences, specialization as opposed to generalism and better market performance in specific segments through specialization. These two contributions represent two of the main underlying assumptions made in niche research in business sciences. After examining the niche in human ecology and enlightening the main concepts and development path, the next point will deal with the niche development in social structure.

(2) The role of the niche in social structure

The excursion of niches in social structure will begin with a brief explanation of core ideas behind social structure. After gaining familiarity with the topic the role of the niche and its development within social structure will be addressed.

Although social structure is one of the most frequently used sociological terms, its meaning still cannot be clearly conceptualized or generally accepted. The notion of social structure as relationships between various members or groups or as lasting and relatively stable patterns of relationships emphasizes the idea that society is arranged into structurally related groups or a composition of roles, with different functions, meanings or purposes. Social structure therefore applies to three main categories:

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[108] When the market has a low degree of concentration, specialist forms of organizations do not perform as well as in highly concentrated markets. Cf. Carroll (1985), p. 1270ff.; Anand Swaminathan (2001), p. 1170ff.

- clear relations between members or groups to each other,
- patterns of behavior and relationships, which are relatively stable within a certain society and
- the integration of social institutions and norms into social systems, with the purpose of influencing the behavior of the participants within these social systems.[109]

Having grasped a basic understanding of social structure, the focal point will now turn towards the history and influence of the niche in social structure.

The second article from Georg Simmel that contributed to the development of niches in social structure was called "The Web of Group Affiliation". He describes the social groups, which are composed of individuals. It is through these group affiliations that people are defined as individuals, leading to the realization that our individuality is born at the center of the different influences that affect us. Through the relationships between social groups, organizations and individuals Simmel described the mission of group affiliation, which is a function of organic and rational membership in the structuring of social environments and limitation of the behavioral options. He was able to achieve this objective by applying a unique social geometry.[110]

Simmel's work together with the contributions from Lazarsfeld on the concept of property-space and Merton's work on social structure,[111] laid the groundwork for the work of Peter Blau a professor from Columbia University. Blau created a macrosociological theory of social structure, which was based on the spatial conception of social structure in 1977.[112] His conceptualization of social structure was restricted to the distribution of a population between various social positions which show and influence the relations between people. Therefore social structure shows the differentiation between people. They are based in the social distinctions that people make in the relations regarding their role and social associations. These distinctions can be observed in the different roles and positions, which consequently

[109] Cf. Crothers (1996), p. 14ff; Merton (1968), p. 216; Merton (1976), p. 184; Merton/Sztompka (1996), p. 9ff.
[110] Cf. Simmel (1955a), p. 194f ;Popielarz (2007), p. 67.
[111] For more details the concept of property space, see Lazarsfeld (1937); Barton (1955) and Merton's work on social structure see footnote 113.
[112] Blau has outlined the theory of the structure of social associations, which was elaborated in his paper "Inequality and Heterogeneity". Cf. Blau (1977), p. 50.

impact the ensuing social associations. At the level of an entire population, distributions exist for every type of position. On the other hand, the macro structure of societies is a multidimensional space of social positions under which people are divided and which impact their social relationships.[113]

This social structure based on the spatial conception developed by Blau was later used by McPherson in his ecology of affiliation.[114] McPherson's model was designed to enable a better understanding of interorganizational relationships. The theoretical contribution of this model enabled the connection of the field of organizational demography with the macrostructural theories.[115] McPherson's work had upgraded Blau's work with two complementary components. These two components will become much clearer when they will be explained within the niche context of social structure. The first one was the so called principle of homophily, which was originally developed by Lazarsfeld and Morton. [116] This would allow to identify homophilius social ties as a nongenetic medium for trait inheritance. The second contribution came from the recognition of the close relationship between Blau's multidimensional social space and the theoretical resource space described in Hutchinson's niche model from 1957. This contribution would then allow a set-theoretic or spatial analysis.[117] The role of the niche in McPherson's model was to provide answers as to why only some people are potential members of an organization. It explains the importance of the niche for human organizations. The resource dependency of organizations is defined by the characteristics of the members of organizations, where organizations recruit them from a limited segment of the community. Organizations are connected in time through common members and will recruit them from areas of geographical proximity rather than from remote areas.

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[113] Cf. Blau (1977), p. 28. Blau differentiates the society in his macrosociological theory into two different generic forms; one being inequality and the other heterogeneity. Inequality is the distribution of people according to their hierarchical social ranking. Heterogeneity represents the distribution of people which is not based on ranking. Knottnerus/Guan (1997), p. 112.

[114] McPherson developed an ecological model of competition of social organizations for members in his 1983 paper "An ecology of affiliation". Cf. McPherson (1983b), p. 519.

[115] Cf. McPherson (1983b), p. 531.

[116] Homophily is the principle that a contact between similar people occurs at a higher rate than among dissimilar people. Homophily as the pervasive fact means that cultural, behavioral, genetic or material information, which flows through networks, will tend to be localized. McPherson (2004), p. 416. The original formulation of homophily is distinguished between a status and a value homophily and this definition was developed by Lazarsfed and Merton in 1954. Cf. Lazarsfeld/R. K. Merton (1954), p. 18ff.

[117] Cf. Popielarz (2007), p. 68.

Organizations that have a niche overlap will tend to recruit their members from the same pool.[118] On the other hand, social networks play a vital role in the process of recruitment. Due to the homophily of these social networks, existing members of organizations tend to recruit potential members from their own social networks. Consequently, the potential members of organizations are people who have related sociodemographic attributes as the existing members. Therefore potential members of organizations which could be recruited can be found within or at the border of the organization's niche.[119] The model of McPherson has primarily been applied in the study of voluntary associations; however, it has also been extended to the study of cultural forms and social movements.[120]

The relevance of niche in social structure for this thesis is mainly in its contribution to resource dependency, through which it explains that the resource dependency of organizations is determined by the type of members and the resource pool from which an organization can draw its members. Based on the understanding gained from the niche in social structure the last part of the niches in social sciences will deal with contemporary niche research in sociology.

(3) The niche in contemporary sociology

The last part of the review of niches in social sciences will include an analysis of the niche in contemporary sociology. There have been several advancements in the field since the last major works in human ecology and social structure described above. The main advancements have been made regarding the inclusion of (a) *new methodologies* in the research process, (b) identifying additional types of *niche spaces*, (c) inclusion of *interdisciplinary research* and (d) *the integration of various perspectives* into sociological research.

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[118] Cf. McPherson (1983b), p. 520f.

[119] Cf. McPherson et al. (1992), p. 156f. This homophily explains the genetic transmission in the relationship between niches and social networks. The niche of an organization is able to remain relatively stable as long as the attributes of its current members are being copied on to new members, which occurs through the recruitment within homophilious social networks. Similarly, the niche of an organism can remain stable because the attributes of the organisms are inherited in the following generations through the process of genetic inheritance. Popielarz (2007), p. 75.

[120] For more on the research of voluntary associations, cultural forms and social movements also see McPherson (1983a); McPherson/Smith-Lovin (1986); Popielarz/McPherson (1995); Cress et al. (1997); Popielarz (1999); Rotolo (2000); Noah (2003); Rotolo/Wharton (2003).

(a) Progress in the field of niche research in sociology can only be achieved with the development of new methodologies, which enable further advancements and upgrades. The current advancements in methodology are based on two tools. The first one is the hypernetwork sampling technique, which was also called a dual network and is very well known in mathematical literature. These networks can be created if there is an existing set of elements, which is joined together by a set of relations. If this relation also manages to define a new set of elements, which are connected by relations defined by the first set of elements, then a hypernetwork is created. The main advantage of this hypernetwork is that it enables the research of system attributes at both the individual and organizational level, by employing only information from the individual level.[121] The second tool was the translation of the event history analysis to a sociological context. These event histories were gaining value for sociologists, who look for answers to questions which have a much broader scope than the questions which can be answered with panel data.[122] This enabled the research dynamic changes in social phenomena and the identification of casual relationships in the underlying process over a period of time. The event history in relation to the niches enabled an analysis of longitudinal data, which was a necessary step in advancing the testing of arguments made by the ecological theory.[123]

Following the basis of these two tools was the development of new methodologies such as nonmonotonic systems of logic, semantics and multidimensional scaling. Nonmonotonic systems of logic are the inclusion of new premises, to reflect newly acquired knowledge in revoking the existing conclusions. This method

[121] The view on the hypernetwork can be twofold: it can be viewed as if it consists of individuals who are joined by common membership in organizations or it can be viewed as organizations which are joined by individuals who are part of more organizations at the same time. Cf. McPherson (1982), p. 227.

[122] Cf. Tuma/Hannan (1984), p. 43.

[123] Cf. Nancy Brandon Tuma/Hannan (1979), p. 236; Bartholomew (1985), p. 267; Bye/Hennessey (1985), p. 776; Arminger (1986), p. 538f; Clogg (1986), p. 697; Sorensen (1986), p. 693.

has helped in the formal verification of ecological theories.[124] The graphic representation of niches was done with the assistance of semantics and multidimensional scaling.[125]

(b) One of the main advantages of the niche concept as a theoretical tool is that it can be used to map a broad range of social entities. If there is a clearly defined conceptual space in which the social entities and their niches can be located, the niche is given as a theoretical tool the potential, to understand the nature and dynamics of any social entity.[126] This can be observed with the application of the two main schools of sociology that deal with the niche and enable the identification of new niche spaces: human ecology and social structure.

Those authors dealing with human ecology and follow the path set by Hannan and Freeman[127] are inclined to concentrate on profit oriented organizations and define the niche within the borders of a firm's general activity or its operations. The niche is a key factor towards the understanding of the competition between firms. It separates companies from one another on the basis of its competitive distinctiveness. Therefore a niche does not only paint the competitive environment of a company but it also determines the way in which a company competes with others. In this sense the outcome of the performance of a niche company is the result of the extent to which the company is involved in inter-firm networks.[128] This short excurse into the following subject matter of business science, to demonstrate the identification of new niche spaces will be extensively examined in the next point. However, it is still also important to point out the interdisciplinary nature of the niche which can be already witnessed in the first two points of the literature review.

The research that has been done in social structure puts an emphasis on the foundations laid by McPherson and concentrates on the research of sociodemographic niche spaces. This research is focused on determining the cause for the changes in the sociodemographic composition of occupations. These can be traced back to the competition among occupants in this sociodemogaphic space. The main upgrade to McPherson was the ability to move on beyond research of voluntary

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[124] Monotonicity is a set of conclusions, which can be derived from an existing set of premises and will grow monotonically with the addition of extra premises. Cf. Hannan et al. (2003), p. 313.

[125] See the approach used by Hsu/Podolny (2005), p. 190ff., and by Mohr/Guerra-Pearson F (2007), p. 1888ff.

[126] Cf. Popielarz (2007), p. 77.

[127] Cf. Hannan/Freeman (1977).

[128] Cf. Echols/Tsai (2005), p. 219f.

associations, cultural forms, and social movements and include other sociolodemographical phenomena such as labor relations and others.[129]

(c) The growth of the niche concept in social sciences has also encouraged excursions into other disciplines of sociology besides human ecology and social structure, where it could find ties to the core conceptions. The assertion of structural equivalence in population ecology paved the way for the connection of niche based ecological models with industrial economics.[130] Economists have discovered that there are many similarities between the two fields of research. For one, ecologists have discovered that the competition for resources and the examination of equilibria displays how the environmental restriction affects the size of populations. There is also the effect of competition on specialization and how efficient the usage of resources is.[131] There are four main areas in which there are overlaps from which economics can draw lessons from social sciences on the niche topic. First there is the evolutionary approach to the explanation of the economic phenomena, second is the modeling done in the area of entry and exit rates, third is the use of the competitive exclusion principle for the research of source and structure of product differentiation and specialization in markets and fourth are the limitations and the constraints with which organizations are faced when reorganizing their structures.[132] The first results of these excursions between disciplines can be seen it the integration of resource partitioning and sunk cost theories.[133]

(d) Lastly, there are attempts at the integration of the two main perspectives that dominate niche research in sociology. Population ecology and social structure employ a common conception of the niche, which comes from the biological sub-

[129] Cf. Rotolo/McPherson (2001), p.1096.; Sorensen (2004), p. 151f.

[130] Cf. DiMaggio (1986) , p. 35. „The connection between structural equivalence, input-output sectors and markets has been long recognized by network analysts but that work developed with closer ties to organizational sociology and industrial economics than to population ecology." (Burt/Talmud (1993), p. 139).

[131] However there are not only similarities between the two fields, there are also some differences which have to be accounted for. The first one is the absence of strategic behavior from members of natural populations, which as a consequence leads to the use of simple models. The second difference is in the dynamics of theory. Where economics is more static (focus on the properties of equilibrium) the population ecology is much more dynamic (focus on the process that leads to equilibrium). Cf. Geroski (2001), p. 507f.

[132] Cf. Geroski (2001), p. 532ff.

[133] Cf. Boone/van Witteloostuijn (2004).

field of ecology. These two perspectives also employ an open system view of organizations and other social entities. The most comprehensive empirical body of work in the field of integration of these two concepts is the "The duality of niche and form: the differentiation of institutional space in New York City" from Mohr and Guerra-Pearson.[134]

In conclusion, one can summarize that the niche in social sciences has been introduced into sociology from its origins in ecology. The niche found its place in sociology through the work of Simmel, which paved the way for the two major branches in sociology which would drive the research in the field: human ecology and social structure.[135]

The niche in human ecology developed through the work of Park and the Chicago school of sociology, which was then upgraded by Hawley who also coined human ecology as one of the main branches of sociology.[136] The niche reached its maturation in human ecology with the work of Hannan and Freeman.[137] The niche in human ecology has two main research programs: the niche width theory and the resource partitioning theory.

Social structure followed a similar path of development as human ecology. Merton's work on social structure and Blau's macrosociological theory of social structure built on the work of Lazarsfeld on the concept of property-space.[138] This research came full circle with the work of McPherson on the sociodemographic niche theory, which is the dominant research program in social structure.[139]

Contemporary research of the niche in sociology deals with the implementation of new methodologies into niche research, the discovery of alternative niche spaces, interdisciplinary research with other fields of research (mainly industrial economics) and the research on the integration of the two main perspectives of niche research in sociology, human ecology and social structure.

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[134] There are some differences between the two perspectives in some details. Most often the literature in niche research in social sciences draws on the work of Hannan/Freeman (1977) and McPherson (1983b) and uses the analytical tools developed by DiMaggio (1986). Cf Popielarz (2007), p. 79; Mohr/Guerra-Pearson F (2007).

[135] The beginnings of human ecology and social structure can be found in Simmel's two essays "The Metropolis and Mental Life", Simmel (1950), which was key for human ecology and "Conflict and The Web of Group-Affiliations", Simmel (1955b) for social structure.

[136] See Park et al. (1925), and Hawley (1950).

[137] See Hannan/Freeman (1977).

[138] See Lazarsfeld (1937), Merton (1968), and Blau (1977).

[139] See McPherson (1983b).

After portraying the development of the niche from its origins in ecology and its accent to one of the main concepts of sociology, the attention will now turn to the core of the thesis, which is namely the development of niches in business sciences.

I.1.3 The role of niches in business sciences

The approach to the role of the niche in business sciences will differ from the previous chronological approach used in natural and social sciences. Since the niche in business sciences is at the core of the thesis, it also requires a more detailed approach than the one used in the previous two sub chapters.

Although the niche possesses a formidable economic relevance, so far it has failed to gain much recognition as a scientific subject. Aside from this relative irrelevance in the scientific community, the niche in business sciences also lacks an adequate examination of the influence of structural framework. As a consequence of an unclear structural framework and an insufficient scientific foundation are the different estimations on niche attractiveness. Thus divergence is especially highlighted in the assessment of the niche site, its potential for growth and the strategic recommendations for this niche. This leads to a large diversity with regard to the content and the understanding of niches in literature. Therefore the aim of this subchapter will be to clarify the different conceptions and through this clarification enable the synthesis, which will later be done in the third part of the thesis.

The sub-chapter will be similarly structured into three points as in the previous two. (1) There will be an analysis of the *existing niche concepts in business sciences*, where these concepts will be analyzed. (2) There will be an overview of the historical development of *the niche in strategic management*. (3) There will be an analysis of *niche approaches and future directions in contemporary strategic management*.

(1) Existing niche concepts in business sciences

The examination of the existing concepts in business sciences will be the first step in the analysis of the niche in business science. This examination will focus on the scientific background of these concepts, explain their main attributes and provide main critique points of each of them. These early concepts all heavily rely on the conception of the niche in ecology and consequently employ many characteristics

which could already be observed in the literature review of the niche in ecology. The information gained about the function, formation, development and structural characteristics of niches in regard to business sciences, possesses a great relevance for the construction of analogies and a better understanding of niches in relation to mass markets.

The examination of existing niche concepts in business will be divided into four parts: (a) the ecological concept, (b) the market psychological concept, (c) the evolutionary concept and (d) other concepts in business sciences.

(a) Ecological concept. The first ecological niche concept was developed by Klaus Günther in 1950, who was a member of the Institute for Genetics at the Freie University of Berlin.[140] He defined the niches through the so called matrix-patrix relationship between the environmental conditions (System I) and the organizational and behavioral characteristics of a species (System II).[141] Günter sees these environmental conditions and species specific as two different dimensions.[142] Ecological niches in this concept are created when both dimensions overlap, meaning that System II has to be compatible with System I. (see figure I-5)[143]

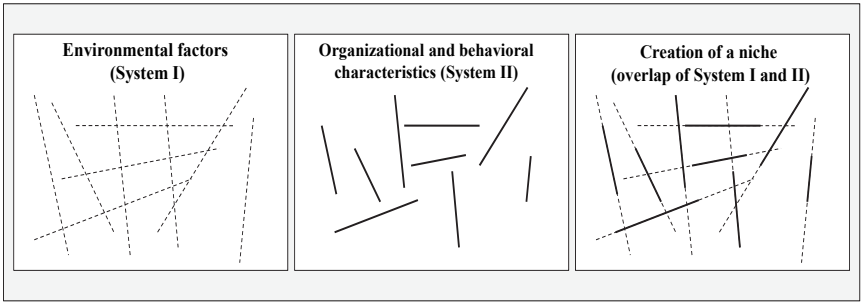

Figure I-5: The creation of a niche through the overlap of environmental factors and species specific systems

(Source: Spiegel (1990), p. 4; Günther (1950), p. 55et seqq)

The compatibility of both systems implies in a biological sense that a species is able to survive on the basis of its characteristics under the given environmental conditions.

[140] Cf. Rosenbaum (1999), p. 31; Danner (2002), p. 14.
[141] The organizational and behavioral characteristics are mainly determined through morphological and physiological specifics of a species. Cf. Spiegel (1990), p. 4.
[142] Cf. Günther (1950), p. 82.
[143] Cf. Günther (1950), p. 80f.

The exact fit of environmental factors and species specific systems, which is a perquisite for the creation of niches, leads to a high level of individuality of an ecological niche and explains the frequent parallel existence of numerous related species which have a similar way of life.[144] An insufficient overlap in one of dimensions can already provide protection for a weaker species from its superior enemies.

The formation of the number of dimensions of a species has additional important implications. There is a positive correlation between the number of dimensions of a niche and the growing specificity and a negative one with the number of different species, which means the competitors in a given niche. On the other hand, a large number of dimensions implies that it will be much harder for a species to find a suitable niche. The reason for this can be found in the number of dimensions that a species can defend against its competitors and also their formation and consequently the borders of a niche.[145]

The special dimension in the Matrix-patrix model of Klaus Günther only plays a secondary role in comparison with the classical understanding of a niche according to Charles Elton. Günther is focused more on the important role of measuring the function of the dispersion and density regulation of a species.[146] A central consequence of this regulatory function is the existence of an inter-specific and intra-specific competition of species within a given niche. In inter-specific competition an entire species can fall into the process of selection, on the other hand the survival of species is secured in intra-specific competition, although there can be suppression of the weaker individuals.[147] Inter- and intra-specific selection is narrowed down with the even distribution of individuals in the habitat and as a result this distribution forces the weaker individuals to look for new ecological niches in order to assure their own survival.

An additional important aspect of the ecological niche concept is the continued development of the organizational and behavioral dimension of species, which is in large part determined by competitive pressure in the habitat as well as by the potential for continued development, competitiveness and the ecological width of a

[144] Cf. Günther (1950), p. 83; Ludwig (1948).
[145] Cf. Spiegel (1990), p. 5.
[146] Cf. Rosenbaum (1999), p. 35ff.
[147] Cf. Spiegel (1990), p. 3.

species.[148] This way each species can achieve a connection with evolutionary factors of random and planned variation, internal or external selection and retention, as well as the expansion of their own niche or even the creation of new niches.[149]

The aspects mentioned above as well as the existence of two interacting groups of system components especially justify the economic relevance and the ability to transfer the ecological niche model onto service and commodity markets. The following reasons support this claim:

- the economic markets are also constructed from two multidimensional systems. The products with their supply dimensions can be compared with the species specific (organizational and behavioral) dimension (System I) and the consumers respective demand, with the environmental conditions (System II);
- correspondingly with the ecological interdependencies, there are also analog determinants in business sciences for the creation, occupation and the allocation of niches: the competitive pressure in markets, the ability to further enhance (the attractiveness) and the width of product offering, as well as the competitive ability of the suppliers (see figure I-6).[150]

[148] Cf. Rosenbaum (1999), p. 38.
[149] Cf. Spiegel (1990), p. 4.
[150] Cf. Rosenbaum (1999), p. 36ff.

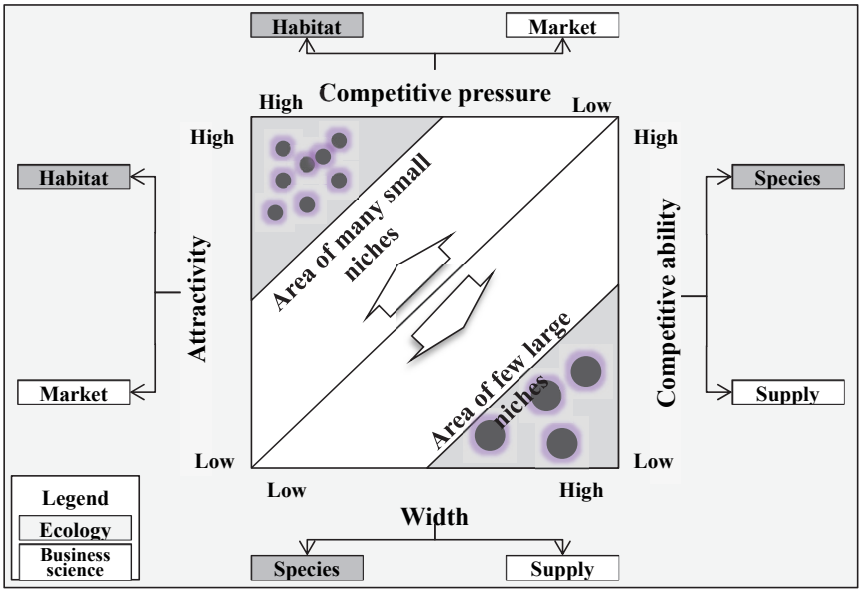

Figure I-6: Allocation of ecological and business science niches
(Source: Own interpretation on the basis of Rosenbaum (1999), p. 39.)

As a result, different combinations of a high supply width, low competitive ability of supply as well as low competitive pressure, and lacking market attractiveness are created. These are areas with few and therefore large market niches. These interdependencies are also analog valid for ecological niches.

Although this ecological niche concept possesses a significant relevance, it is not possible to build an independent economic niche theory based on analogies in order to provide a tangible course of action for a company which operates in the real market economy.[151] Another deficiency of the ecological niche model is that it is of static nature, meaning that the Matrix-patrix relationship is only able to explain the developments until the point of creation of a niche. It also has only the ability to show the evolutionary developments in reference to the species specific system.[152]

Following the analysis of the ecological niche concept, the review will focus on the market psychological concept of Spiegel. This is the first concept which tries

[151] On the basis of the ecological niche models, it is possible to build analogies in relation to the creation of economical niches and their relationship to mass markets.
[152] Cf. Rosenbaum (1999), p. 44ff.

to explain the creation and development from a business science point of view and to expand the understanding of the analogy building done previously by the ecological niche concept.[153]

(b) Market psychological concept. The market psychological concept of Bert Speigel found its first practical application with the research done by the Institute for Market Psychology in Mannheim between 1953 and 1954.[154] This study constituted the beginning of the use of the term niche in a business science sense. On the basis of this study, Spiegel developed a concept on the structure of opinion dispersion in the social field, which became known as the market psychological niche concept. This concept integrates the insight gained from the niche research in biology and the knowledge about consumer research from marketing and psychology. According to Spiegel, the social field includes only those individuals for which there is an attribute subject such as a product, so that each individual can be part of various social frameworks.[155]

On the basis of a one dimensional observation of the social field of opinion, e.g. an economic market and the dispersion of individuals between two initial bipolar characteristics, Spiegel develops an n-dimensional model. The emergence and the structure of a market niche are created on the basis of the specific constellation of the supply and demand dimensions.[156] In contrast to the ecological niche concept of Günther, who explains the creation and structure of niches among other things with competitive pressure, Spiegel uses attraction. These attractions were operationalized through a *"force field"*, an expression coined by Kurt Lewin, which means the attribute of an objective to become oriented towards a solution.[157] The effect of a force field on an individual can be shown one-dimensionally with an arrow whose height varies upon the intensity of the effect (see figure I-7a).

[153] Cf. Danner (2002), p. 8.
[154] Cf. Rosenbaum (1999), p. 45; Danner (2002), p. 20f.
[155] A product becomes relevant for an individual within a market niche, if it is noticed, and the individual builds an opinion or a preference regarding this product. Cf Spiegel (1961), p. 12ff.
[156] Cf. Rosenbaum (1999), p. 46f.
[157] Cf. Spiegel (1990), p. 5.

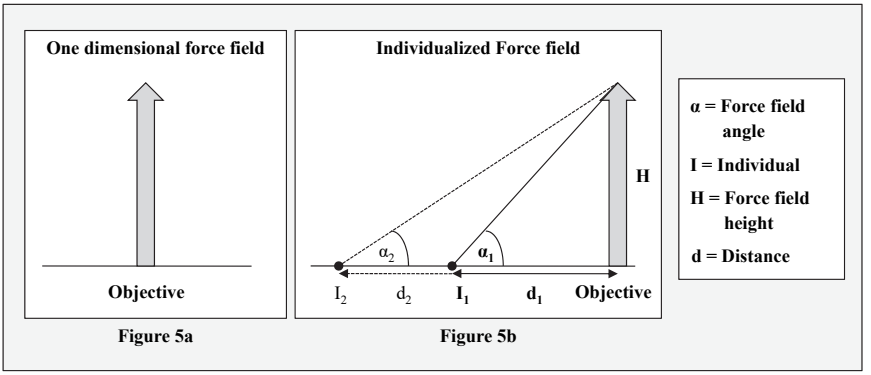

Figure I-7: Representation of a force field in the social field.
(Source: Own interpretation on the basis of Spiegel (1990), p. 6)

This viewpoint is not sufficient for a social field which is comprised of numerous individuals because it leaves open several important questions. This model cannot explain the strength of the intensity with which an objective works on an individual and it respectively cannot find out what determines this effect. Additionally it cannot explain why an individual does not always prefer an objective with a higher force field.[158]

On the basis of the reasons stated above, it is necessary to explain the force field in a more complex model as an individual dimension. The individualization of the force field can be achieved through the positioning of individuals with a different distance to an objective, so that an objective in dependence to the distance is perceived with a different level of attractiveness for each individual[159], whereby the distance can be spatial, based on time or semantics. As a central consequence of the expansion of the model, the subjective force field character of an objective is now the size of the tangent of the angle α (force field gradient), which varies from the objective in dependence to the objective force field height (H) and the distance (d) (see figure I-7b).

As a last step, Spiegel transferred the original model through a ninety degree turn onto a complex social field. Through the turn the gradients and arrows are not visible anymore but are implicitly present in the visualized dispersal and density of a discipleship in a social field.[160] Analog to the matrix-patrix model of Günther, a

[158] Cf. Spiegel (1990), p. 5.
[159] Cf. Danner (2002), p. 20f.
[160] Cf. Spiegel (1990), p. 7.

subject of opinion classifies itself in the social field, where there is a maximal overlap between System I and System II.[161] The environment specific System I of the ecological model is equivalent to the consumer (e.g. expectations, needs) in the psychological market concept of Spiegel and on the other hand the species specific System II is comparable to the demand side (e.g. product quality, price level), which should satisfy the dimensions of System I.

Through the positioning of the competing supply in different market segments niches that are more or less distinctive are created based on the distance between the supplies.[162] Based on this Spiegel differentiates between two different types of niches: manifest and latent (figure I-8)

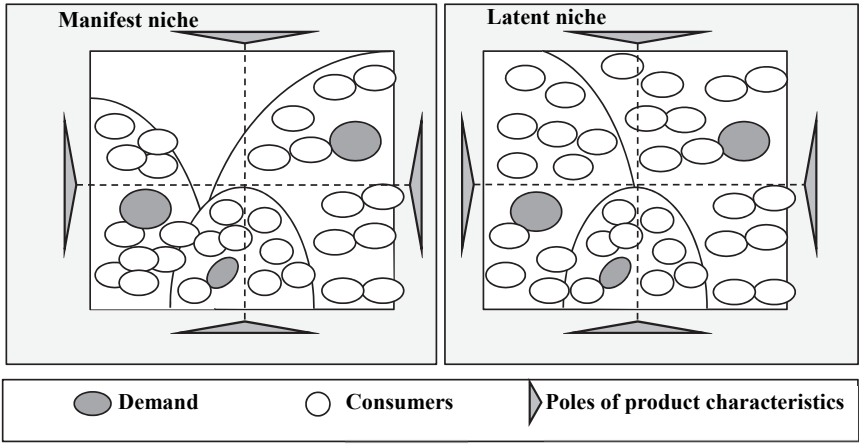

Figure I-8: Manifest vs. Latent Niches
(Source: Spiegel (1990), p. 7)

Manifest niches can be identified, when the current consumer needs are not fulfilled by the existing supply, which leads to a creation of a niche.[163] Consequently, the identification of market gaps and occupation of manifest niches is economically very feasible. Due to the existence of at least some competitors or because of the

[161] Cf. Spiegel (1990), p. 8.
[162] Cf. Spiegel (1961), p. 102.
[163] A detailed description of the differences between a market niche and a market can be found in Spiegel (1961), p. 143.

fast occupation of the manifest niches through a new or a modified existing supply, manifest niches are very hard to find in reality.[164]

The main characteristic of latent niches contains the consumers with the lowest force field gradient, which are individuals whose preferences are the least satisfied through the existing supply. Therefore, latent niches are most appropriate for the introduction of new supply into the market. Even though they have a low force field height at the introduction, they will still manage to attract a considerable number of consumers through the short distance to the supply.[165]

A considerable limitation of the psychological market model of Spiegel is the fact that it can only display a social field, e.g. by the derivation of supply and demand relationships in a market, whereas other influences remain unconsidered.[166] Additionally, Spiegel's concept allows only those competitive changes, which are induced by the supply side.[167] Regardless of these shortcomings, the psychological market concept performs the transformation of the findings from biology into the *"economic reality"* and hereby provides a significant contribution in the development of a founded understanding of niches in business sciences. It has to be especially pointed out that the approach of the niche suppliers is shaped through specialization and concentration on partially satisfied or unsatisfied consumer needs. The framework and premises developed by Spiegel are used as a basis for the evolutionary theoretical concept of the niche developed by Michael Rosenbaum.[168] His approach expands Spiegel's market psychological concept through the inclusion of dynamic and evolutionary developments on the side of the consumers.

(c) Evolutionary concept. Before moving on to the evolutionary concept of Rosenbaum, there will first be a short introduction into the evolutionary theory. Evolution as a term was first coined by the English philosopher Herbert Spencer, and stood for progress.[169] The basics of the evolutionary theory go back to findings of Darwin from the eighteenth century.[170] Many authors see the basic mechanisms of the pluralistic evolution theory, which assumes several independent factors of evolution as universal and applicable in other fields, e.g. companies.[171] To facilitate

[164] Cf. Spiegel (1990), p. 7; Danner (2002), p. 24; Rosenbaum (1999), p. 78.
[165] Cf. Spiegel (1990), p. 7; Danner (2002), p. 25; Rosenbaum (1999), p. 78.
[166] Cf. Danner (2002), p. 23.
[167] Cf. Rosenbaum (1999), p. 58.
[168] Cf. Rosenbaum (1999), p. 58et seq; Danner (2002), p. 23.
[169] Cf. Wuketits (1995), p. 1.
[170] Cf. Wuketits (1995), p. 1; Kieser/Woywode (1999), p. 253.
[171] Cf. Wuketits (1988), p. 14.

easier understanding and classification of the factors of evolution and of the evolutionary niche concept, the evolutionary process of the synthesized evolutionary theory, will be shortly enlightened:[172]

- The object of analysis is the population, which is defined through a common gene pool. Each individual has a distinct specific combination of a part of the gene pool (genotype).
- The gene pool is expanded through mutations, whereby mutations are omnidirectional.
- A combination of genetic characteristics of two different individuals is achieved through reproduction. The new individual is never an exact copy, so that variation is a consequence of reproduction.
- A directed change of the gene pool happens through the process of selection. Selection is the result of different capabilities of adjusting to the environment, which influences the success rate of reproduction.[173]
- The creation of new species occurs through a spatial separation of at least two groups of a population. Genetic isolation takes place, which makes/prevents successful breeding between individuals of two different populations.

The business science has been going through a transformation of the scientific archetype since the 1980's, by going from the classical mechanics as the basic theory of physics, to the theory of live organic systems as a component of biology.[174] Authors such as Leonhard Bauer and Herbert Matis are talking about a return of social and business sciences back to their core, back to the time of David Hume and Adam Smith.[175] The paradigm change is happening primarily on the basis of the growing complexity and the interdependency between internal and external factors. These factors make it necessary to view the economy as a live system and as all living things, subject to a process of evolution.[176] The evolutionary theory as an alternative approach to the generation of economic knowledge, does not categorically exclude the findings from mechanics. Therefore, it has the advantage because it is able to

[172] Cf. Kieser/Woywode (1999), p. 254f.; Danner (2002), p. 27.
[173] Darwin uses the term struggle for existence and survival of the fittest to describe this phenomena.
[174] Cf. Oeser (1989), p. 7.
[175] Cf. Bauer/Matis (1989), p. 5f.
[176] Cf. Dopfer (2004), p. 93; Oeser (1989), p. 8.

integrate the empirical concepts of natural sciences and the concepts of business science in humanities.[177]

On the basis of the evolutionary theory, the concept of Rosenbaum expands it to an n-dimensional niche model through the integration of dynamic elements.[178] Rosenbaum's focus of research lies foremost in the creation and the development of niches and considers them from a supply as well as a demand perspective. Following the research of the ecological and market psychological concept, the evolutionary factors determine the creation, structure and development of niches and are joined together by the principle of functional causality. Additionally, niches are influenced by diverse inter- and intra-system interdependencies of the environment; the entire market and other sub-systems of the market (figure I-9).

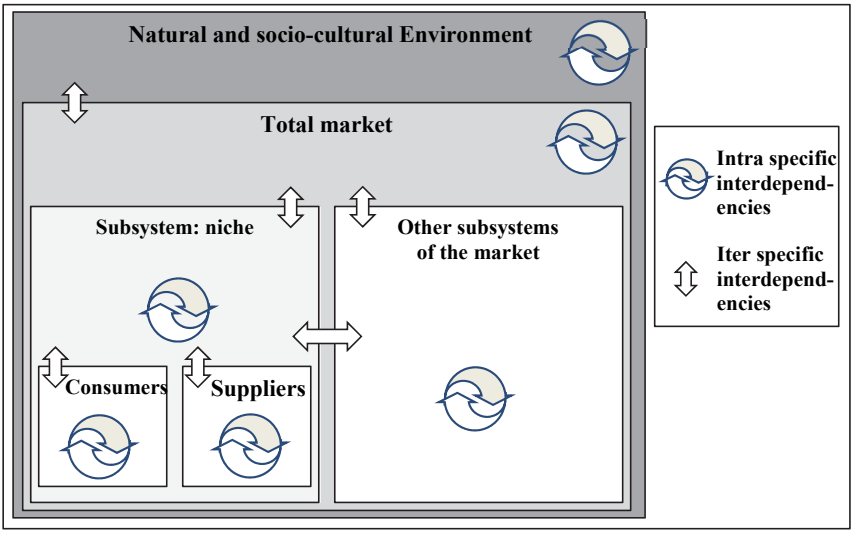

Figure I-9: The niche as a sub-system of the total market
(Source: Rosenbaum (1999), p. 124)

Rosenbaum developed his concept step by step, starting with a two dimensional attribute space and upgrading it up to an n-dimensional concept.[179] This should

[177] Cf. Rosenbaum (1999), p. 20f.
[178] For example Rosenbaum allows this in his concept in that new niches can be created in the process of creation of new markets.
[179] Cf. Rosenbaum (1999), p. 123.

characterize the evolutionary processes of the market as well as the supply and demand side. Analog to the evolutionary theory as a new market structure does not displace the old one but instead builds on it.[180] The expansion of the attribute space through the generation of an additional supply-demand dimension leads to the creation of a niche. This niche is primarily characterized through a low competitive intensity in comparison to other market constellations with fewer dimensions. The main criteria of a niche is the so called *"niche factor"* or factor-mix, which differentiates the niche supply from other supply in the market.[181]

On the other hand, in analogy, the evolutionary theory presumes that market complexity rises because of its development and that this development is marked by its own dynamics. The process of human development, the corresponding growth of creativity and spiritual productivity leads to a further differentiation of supply and demand so that new paths of development or niches are created (figure I-10).[182]

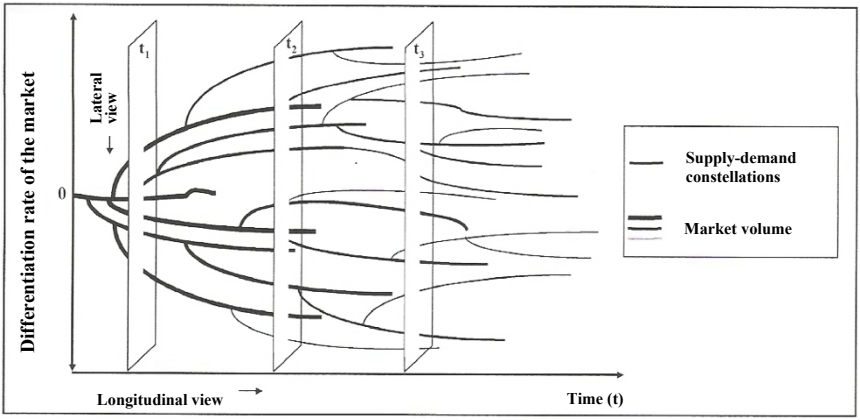

Figure I-10: Evolutionary development of markets
(Source: Rosenbaum (1999), p. 120).

[180] Cf. Rosenbaum (1999), p. 188ff.
[181] Cf. Rosenbaum (1999), p. 189.
[182] Cf. Rosenbaum (1999), p. 188; Danner (2002), p. 29ff.

This continuous niche building leads to an improvement of the total market structure; with a growing number of niches more and more individuals can consume their ideal product. According to figure I-8 the development of individual paths correspond with the specific supply-demand constellation of a market.[183] Due to the increasing rate of differentiation and the creation of new development paths, the average volume of a market decreases with time.[184]

Whereas the psychological market concept of Spiegel can only differentiate between manifest and latent niches, Rosenbaum also makes the differentiation between *horizontal* and *vertical niches*.[185] A horizontal niche is characterized by the fact that it can be found between other market constellations and has the same number of supply-demand dimensions available. These are found in market segments, where there are only a limited number of consumers who demand similar product dimensions so that these segments are usually smaller but still profitable. Horizontal niches can, be divided similarly as with the psychological market concept, into latent and manifest niches (figure I-11).[186]

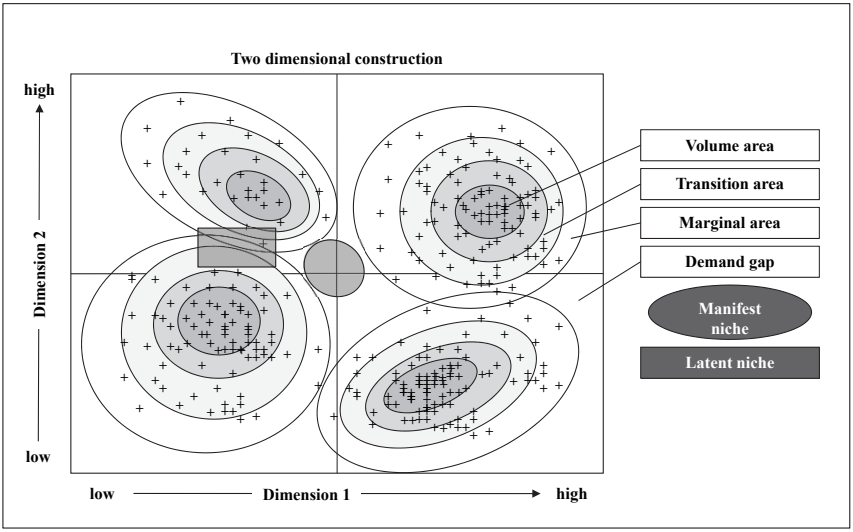

Figure I-11: Horizontal and vertical niches in a two dimensional construction (Source: own interpretation on the basis of Rosenbaum (1999), p. 126ff).

[183] Cf. Rosenbaum (1999), p. 199f.
[184] Cf. Rosenbaum (1999), p. 120f.
[185] Cf. Danner (2002), p. 33ff; Rosenbaum (1999), p. 124ff.
[186] Cf. Danner (2002), p. 33f.

On the basis of Cavalloni (1991) and Stahr (1995), Rosenbaum makes the distinction between volume areas with a high demand density and marginal areas where the demand is scarcer.[187] Additionally, there are also transitional areas, which cannot be clearly separated from the two previously described areas and demand gaps which are without the presence of consumers.[188] Through the further development of the force field in Rosenbaum's concept, the total distance of an attribute to the individual is not a deciding factor anymore. The decisive factor is the sum of the weighted single distances of the positional values for the individual demand position.[189] In contrast to the horizontal niche, the vertical niche is a result of evolutionary processes, e.g. new or changed demand structures on the demand side or innovations on the supply side. These processes on the supply and demand side lead to a higher dimensioning of the market (figure I-12).

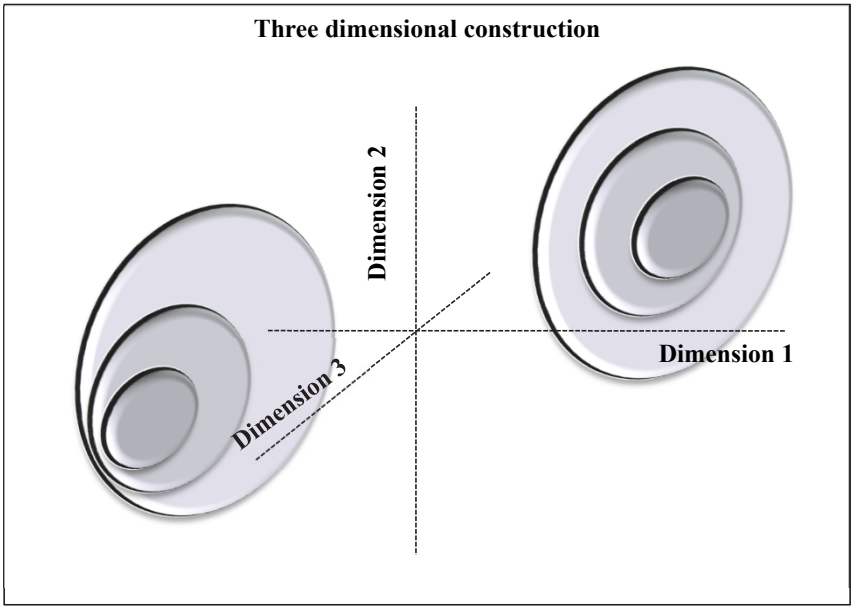

Figure I-12: Horizontal and vertical niches in a multidimensional construction (Source: own interpretation on the basis of Rosenbaum (1999), p. 126ff).

[187] Cf. Cavalloni (1991); Stahr (1995).
[188] Cf. Rosenbaum (1999), p. 126.
[189] Cf. Rosenbaum (1999), p. 375.

(Source: own interpretation on the basis of Rosenbaum (1999), p. 126ff).

Even though the evolutionary theoretical of the n-dimensional niche concept is currently the most distinguishable explanation approach for niches, there are however some restrictions and limitations. Part of these restrictions and limitations can be found in the assumption that the evolutionary developments of niches cannot be exactly prognosticated because of the parallel effects of coincidence and necessity. The reason being, that external effects caused by coincidence cannot be prognosticated.[190] Additional limitations are that markets cannot be clearly bordered, not all biological analogies are clearly defined and operationalized and that it neglects the influence of individual actors on the creation and development of niches.[191]

Despite these shortcomings, the following central insights can be gained in relation to the market niches and the n-dimensional niche concept, which should be considered in the niche definition for strategic management:

- Niches are subsystems of mass markets, which are subsystems of the total markets. The total market is also influenced in part by superordinate systems.
- Niches are created through evolutionary processes of the total market, the supply and demand constellations, consumer behavior or actions taken by the companies:
  - Niches can be created and changed from the supply as well as from the demand side. This way niche markets are able to achieve considerable volume
  - Niches are not areas free of competition but they are subject to competition induced by the process of evolution and dynamic changes
- Horizontal and vertical niches can be identified. Especially vertical niches that are created e.g. through the higher dimensioning of its supply have higher market entry barriers and offer a better level of protection from new market entries and takeovers.[192]

(d) Other niche concepts in business sciences. Besides the ecological, market psychological and evolutionary concept, which present the more comprehensive theoretical concepts, there are other research results which deal with the topic of the niche in business sciences. As opposed to the three concepts mentioned above, which exclusively research the niche phenomenon, these other concepts look at the

[190] Cf. Rosenbaum (1999), p. 186f.
[191] Cf. Kieser/Woywode (2006), p. 339ff.
[192] Cf. Rosenbaum (1999), p. 373ff; Danner (2002), p. 32.

niche in a secondary or subordinate role. In the following there will be a short overview of other niche approaches.

The *niche approach in economics*. The niche is discussed within economic literature as the contrary position to the trend product policy under the keyword *"horizontal product differentiation"*.[193]

D'Aspermont, Gabszewicz and Thiesse (1979) conclude from their model of product development that the product should differentiate as much as possible to prevent strong price competition.[194] Böckem on the other hand shows in her model that the decision should be based on the two extremes of the product development decision. On the basis of the game theory in oligopolistic markets, she was able to show this decision using the example of two products with a dynamic optimization of Nash-equilibrium of the two decision criterions product design and price.[195] The decision of these criteria is due to the presumption that the product per se does not have any usefulness, but rather its attributes and the price presents a second independent parameter.[196]

The main conclusions and implications of this economic niche model are:[197]

- Market niches are small and are occupied as an option to avoid the competition on the total market
- A mediary position on this strategy continuum maximizes the welfare of the individual company as well as the entire economy and not the focus on one of the two product development possibilities.

Cavalloni's *qualitative explanation of the niche*. With the help of an institutional, functional and instrumental dimension of a business segment Cavalloni (1991) has developed a model space, which was used for a qualitative explanation of a niche.[198] For this purpose, he first expanded the systematization approach of Abell through a competitive component, with which he was able to display several companies in his model space. On the basis of a different distribution of companies and the following varying spatial density, Cavalloni was able to derive the central,

[193] The trend product policy is the positioning of the supply, according to the preferences of the majority of the consumers. Cf. Böckem (1993), p. 536.
[194] Cf. D'Aspermont et al. (1979), p. 1145f.
[195] This insight implies that the suppliers choose the product attributes and prices in dependence of one another.
[196] Cf. Lancaster (1966), p. 133f.
[197] Cf. Rosenbaum (1999), p. 65f.
[198] Cf. Cavalloni (1991), p. 13f.

marginal and transitional as well as gaps, which he used, to display the general characteristics of a niche:[199]

- Central areas are marked by a high company density, many competitors and high demand.
- Gaps are market segments, which are not utilized by any market capacity.
- The consumer-need combinations are relatively seldom in the marginal areas because of their peculiarity; they possess a low density.
- Transitional areas apply to the other areas that are left standing, besides the areas mentioned above.

In time there can be movement and displacements between the individual areas. Cavalloni defines the niches as the business segments in marginal areas, which:
"(...) are characterized through market services, which do not satisfy the differentiated consumer need in up to a satisfactory degree." (Cavalloni (1991), p. 16)

Following the review of niches in general business sciences, a conclusion can be made that niches are generally defined and identified by the following characteristics: they are built on analogies from ecology and sociology, which are then adapted into business sciences, they can be identified through unsatisfied demand by the existing market supply and they are a small specialized market constellation, which offers shelter from the competition. In addition, they are created through the evolutionary market processes and maturation which lead to a higher degree of market differentiation, which as a result leads towards the development of new niches. After this basic introduction into niches in business sciences the analysis will turn to the role of the niche in strategic management.

(2) The niche in strategic management

The niche in strategic management will look at how niches and niche strategies were initially developed and applied within the emerging field of strategic management.[200] This overview will start with a short introduction into strategic management before focusing on the specific fields in which a niche strategy can be observed and also explaining its original meaning in strategic management.

Strategic management is a young scientific discipline whose roots date back to the 1960's. It has been pioneered by the works of Chandler (1962),"Corporate

[199] Cf. Cavalloni (1991), p. 15ff.
[200] A comprehensive definition of a niche and strategic management will be provided in the sub-chapter "I.2.1 The niche and strategic management".

Strategy", Ansoff (1965), "Corporate Strategy" and Andrews (1971), "The Concept of Corporate strategy".[201] The beginnings of niches in strategic management studies can be traced back to the 1960's as they mark the transition in how organizations are viewed. In this time the study of organizations shifted from closed to open systems. Prior to 1960 organizations were viewed independently from their environments and all vital processes and events were internal to the organization. After 1960 the organizations were viewed as highly interdependent with their environments, meaning that it is possible to cross organizational boundaries and that they can change in time.[202] Following this period, three main events shaped the field of strategic management and subsequently the development of the niche. This included the works of Schendel and Hofer (1979) and Porter (1980) and the *inauguration of the Strategic management Journal* in 1980.[203] It was Porter's (1980), "Competitive Strategy" that produced the basis for the further development of the field and much of the produced content. His work marked the breaking point where strategic management ceased to rely on the methodologies and toolkits developed by consulting companies and started its own systematic and theoretical analysis of the firm level strategy.[204]

Based on these developments several schools of thought and paradigms emerged in the field of strategic management. The following will be an overview of some of them, where the niche and niche strategy have also found its role.

(a) Market-based view. The market-based view was created on the basis of the critique of the key-success-factors.[205] The majority of researches in strategic management decided to continue the research of key-success factors within the scope of clearly defined theoretical and methodological foundations. Porter (1980)

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[201] Cf. Chandler (2001); Ansoff (1965); Andrews (1980).

[202] Cf. Scott (1981), p. 407.

[203] See Schendel/Hofer (1979); Porter (2004). Schendel and Hofer's (1979) „Strategic Management: A New View of Business Policy and Planning" is considered as one of the most important contributions to the field of strategic management. This collection of papers and commentaries represented the state-of-the-art research in the field of strategic management. The objective of the book was to define the domain of the relatively young and emerging field of strategic management, analyze the existing research done in the field and propose guidelines and directions for future research. Cf. Evered (1980), p. 536f; Summer/Sobol (1981), p. 99.

[204] Cf. Sridhar P. Nerur (2008), p. 320.

[205] This critique was based on the lack of a theoretical and methodological foundation of the key-success-factor research. However, the basis of this critique was rarely the search for success factors in companies. Cf. Nicolai/Kieser (2002), p. 580ff.

developed the market-based-view on the basis of theoretical foundations of the industrial organization, which he managed to transfer onto strategically relevant research questions.[206] The basis of the industrial organization is the *structure-conduct-performance* paradigm, which is built on the assumption that the market characteristics (structure) determine the behavior of companies (conduct), which then leads to the success or failure in the market (performance).[207] The development of this paradigm is attributed to the work of Mason (1939) and Bain (1956) on the industrial organization. Mason studied the effects of the organizational structure of a company and its response to certain market conditions and the elements of market structure. He discovered some of these elements such as the concentration of buyers and/or sellers and product differentiation among others. These two factors according to Mason (1939) are vital for the analysis of price and production policies and the determinants of industry structure.[208] Similarly to Mason, Bain pioneered his work on measuring monopoly power, scale advantages and business efficiency of large organizations.[209] It was not until 1956 when Bain defined the entry barriers as:

> "(…) the advantage of established sellers in an industry over potential entrant sellers, these advantages being reflected in the extent to which established sellers can persistently raise their prices above a competitive level without attracting new firms to enter the industry (…)." (Bain (1956), p. 3)

These entry barriers may not be as obvious in their effect on industry structure but are vital for the structure-conduct-performance relationship. These entry barriers were economies of scale, absolute cost advantages which are independent of scale, product differentiation, and capital requirements. The extent to which these entry barriers deter competitors from market entry depends on the gap between price and minimal cost at which an entry can be deterred.[210]

Porter (1980) has taken these basic ideas from the industrial organization and modified them by including a behavioral component, which is the importance of

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[206] Cf. Hungenberg (2000), p. 61.
[207] Cf. McWilliams/Smart (1993), p. 64.
[208] Cf. Mason (1939), p. 66. Mason's work was centered around the monopoly and consequent research on industry structure. Because of this focus, the main objects of research were large companies. Mason (1949), p. 1266f.
[209] Cf. Bain (1941), p. 271; Bain (1942), p. 566; Bain (1954), p. 15f; Bain (1956), p. 336; Bain (1969), p. 99.
[210] Cf. Andreano/Warner (1958), p. 67; Qualls (1972), p. 146f.

the managerial decisions for a company.[211] According to Porter the market structure is determined by the five competitive forces: the entry of new competitors, the threat of substitutes, the bargaining power of buyers, the bargaining power of suppliers and the rivalry among the existing competitors. The stronger the threat of these five forces the lesser is the attractiveness of the industry and it is more difficult for a company to achieve a sustainable competitive advantage.[212] Through his work, Porter was able to create an independent field of research in strategic management, which became known as the market-based view.[213]

Based on the five competitive forces Porter developed three generic strategies (see figure I-13a), with which a company can develop a defensible position and outperform the competition:[214]

- *Cost leadership strategy*. The objective of the cost leadership strategy is to be among the lowest cost producers in a given industry. By implementing rigorous control over costs the company aims to achieve above average returns with lower prices. This cost strategy is based on the company's ability to create economies of scale or economies independent of scale with aggressive pricing.[215] The economies which are independent of scale have the ability to

[211] Cf. Bamberger (2005), p. 40f. For a detailed overview of the structure-conduct-performance paradigm see appendix, Figure A-1.

[212] Cf. Porter (2004), p. 4ff. See also appendix, Figure A-2. Although there is no common definition of competitive advantage, it is usually defined as a combination of positional superiority and distinct competences. Day (1988) describes competitive advantage as: *"(...) This integrated view is based on positional and performance superiority being a consequence of relative superiority in the skills and resources a business deploys. These skills and resources reflect the pattern of past investments to enhance competitive position. The sustainability of this positional advantage requires that the business set up barriers that make imitation difficult. Since these barriers to imitation are continually eroding, the firm must continue investing to sustain or improve the advantage." (Day/Wensley (1988), p. 2).*

[213] Although the roots of the concept date back to the 80s and 90s, the market-based view is presently still not viewed upon as a gone out-of-date concept. Cf. Hungenberg (2000), p. 61.

[214] Cf. Porter (2004), p. 11ff. See also Dess/Davis (1984), p. 469; Miller/Friesen (1986), p. 37f; Watkin (1986), p. 10; Chrisman et al. (1988), p. 417f; Jones/Butler (1988), p. 202f; Murray (1988), p. 391ff; Cronshaw et al. (1994), p. 20; Lim Gaik Eng (1994), p. 44f; Marlin et al. (1994), p. 156; Allen et al. (2007), p. 434ff; Akan et al. (2006), p. 45ff; Parnell (2006), p. 1141; Allen et al. (2007), p. 73f; Gurău (2007), p. 370f.

[215] Aubrey (1972) defines economies of scale as: *"(...) the effect on average costs of production of different rates of output, per unit of time of a given commodity, when all possible adaptations have been carried out to make production at each scale as efficient*

provide a more sustainable competitive advantage for the company than scale based economies. These scale independent economies can be classified into three categories: access to raw materials, access to product or process technology and access to distribution channels. The competitive advantage of a cost leadership strategy consequently stems from the company's ability to lower prices to the level of the most efficient competitor and still earn superior profits.

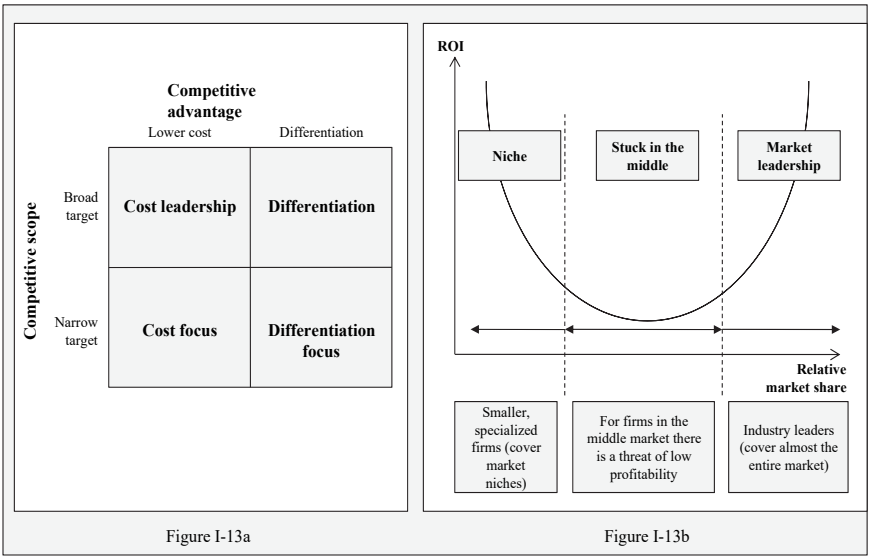

Figure I-13a Figure I-13b

Figure I-13: Porter's generic strategies and stuck in the middle.
(Source: Cf. Porter (2004), p. 12et seqq)

as possible." (Silberston (1972), p. 369). Economies of scale simply state that the average cost per unit will decline with the increasing scale of production. Cf. Curry/George (1983), p. 218f; Martin (1984), p. 1192; Hill (1988) p. 402; Gold (1981), p. 5f. There are three different origins of economies of scale, there are economies of scale which affect: capital costs per unit, operational costs per unit and economies of scale which affect both aforementioned sources per unit. Sources which affect capital costs are initial fixed costs and working capital, sources which affect operating costs are the specialization of labor and vertical linking economies, and sources which affect both capital and operating costs increase in size and specialization. Silberston (1972), p. 374.

- *Differentiation strategy*. The objective of this strategy is to create a unique product or service by emphasizing design or brand image, technology, customer service and other features. This differentiation is typically associated with high investments in costly activities such as research, product or service design and marketing. The emphasis of customers on the importance of product attributes is a necessary perquisite for a differentiation strategy. With a successfully implemented differentiation strategy a company is able to create price elasticity on the part of the buyers. This inelasticity leads to the creation of entry barriers thus enabling the company to achieve higher margins and reduce the power of buyers because of a lack of an appropriate substitute. The cost leadership and differentiation strategies according to Porter (1980) are mutually exclusive.
- *Focus strategy*. This strategy is aimed at satisfying only a specialized segment of the entire market, which consists of certain types of customers, limited geographic market, or a narrow range of products. By pursuing a focused cost leader or differentiation strategy a company is able to satisfy this specialized market segment more effectively or efficiently than its competitors, which operate in the broader market. Thus a company is able to achieve differentiation by better satisfying the needs of a particular customer segment or achieve lower costs in serving this customer segment.

The first differentiation between these strategies is based on the decision, if a company wants to achieve competitive advantage with a cost strategy (e.g. lower prices), or differentiate itself from the market (e.g. high quality products) and this determines the means in achieving competitive advantage. The second differentiation determines the competitive scope, if a company wants to be present on the entire market, or focus only on a segment of the market.[216]

The niche strategies can be found in the area of focus strategies and instead of focusing on the entire market, only a selected segment of the market is developed into a niche. These focus strategies enable the identification of neglected target markets or customer groups, for which there optimal conditions in meeting their demand and the strength of the competitors is the weakest.[217] The basic idea behind the niche as a strategic option is the assumption that a company can achieve its narrowly defined objectives much easier than a competitor in the general market

[216] Cf. Porter (2004), p. 12ff.
[217] Cf. Miller/Friesen (1986), p. 37.

(see figure I-13b). These niches are created from various characteristics such as geographical position, consumer characteristics and product specifications or requirements. The niche strategy is most effective, when the consumer has specific preferences and when it has not been previously used by other competitors.[218] This niche strategy is usually applied by smaller companies, which do not possess the resource level to develop a cost leadership or a differentiating competitive advantage at the total market level.[219]

If a company does not decide upon one of the generic strategies or if it employs a combination of different generic strategies, it faces the risk of being *"stuck-in-the-middle"*. This means that the company has no clear strategic profile and tries to be everything to everyone, and consequently is not able to develop a competitive advantage. As a result the companies that are stuck-in-the-middle are usually less profitable than companies with a clear strategic profile, either as a specialist or a generalist.[220]

A limitation of Porter's niche is the fact that Porter in fact does not provide a definition of a niche nor does he give any indication as to why niches are created, what their structures look like or what their development is like. Additionally, Porter's view of the niche is restricted only to the view from the supplier's side and only gives general recommendations.

(b) Resource-based view. The resource-based view developed as a critique of the shortcomings of the market-based view, as more and more authors became dissatisfied with the lack of attention, which was placed on the role of organization-specific factors in the analysis of strategic groups. This sparked a new interest in firms' resources as the basis of a company's competitive advantage, instead of strategic group membership. It was the beginning of the digital age which sparked a renewed interest in the firm's resources. The previous basis for strategy formulation where strategic groups and industry boundaries were drawn became increasingly difficult to maintain because of the disappearing physical boundaries. Due to vast

[218] Cf. Allen et al. (2007), p. 436.
[219] Cf. Gurău (2007), p. 371.
[220] Cf. Segev (1989), p. 499; Schwalbach (1991), p. 306; Cronshaw et al. (1994), p. 22. Porter's insistence on the inability to follow multiple strategies at once may be unnecessarily limiting, as some of the most successful companies in the world were able to simultaneously implement different strategies (e.g. Toyota). The decision to follow one or multiple generic strategies should be based on the industry and consumer conditions, which may or may not favor a mixed strategy. Cf. Lim Gaik Eng (1994), p. 46.

environmental changes the creation of a sustainable competitive advantage was becoming increasingly more difficult. Therefore research started focusing again on the organizational resources as a source of sustainable competitive advantage in the changed environmental conditions.[221] The RBV was built upon the research done by Penrose (1959) and Wenerfelt (1984) and formalized as one of the most premier paradigms of strategic management by Barney (1991).[222]

The RBV as opposed to the MBV takes an *"inside-out perspective"* of the company and is based on the idea that the success of companies cannot exclusively be explained by the predominant market structures or text book behavior of the companies. [223] The reasons for the success can be found in the specific resource constellations of a company.[224] The resources and their utilization build the foundation for the success of companies. This central idea of the key role of resources and their constellation for a company also became known as the *"resource-conduct-structure"* paradigm.[225] Competitive advantage according to the resource-based view can be achieved, if the resources meet the following four criteria:

> "(…) (a) it must be valuable, in the sense that it exploits opportunities and/or neutralizes threats in a firm's environment, (b) it must be rare among a firm's current and potential competition, (c) it must be perfectly imitable and (d) there cannot be strategically equivalent substitutes for this resource that are valuable but neither rare or imperfectly imitable." (Barney (1991), p. 106)

The different constellations of these resources give a company its distinctive competences, which then translate into a competitive edge over its rivals. The resources

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[221] Cf. Parnell (2006), p. 1141f. Although in the developing stages of the RBV, resources were also viewed in the scope of the MBV and presented similar outcomes as the models developed by Porter's generic strategies and competitive forces. This point is further emphasized by Wernerfelt (1984), when he characterizes a resource as anything which could be considered a strength or a weakness of a firm. Wernerfelt (1984), p. 172ff.

[222] See Penrose (1996); Wernerfelt (1984); Barney (1991).

[223] The market-based view explains the long term success of companies mainly through the industry structure in which a company operates. The key determinant in a company's success is not solely dependent on the opportunities and risks on the market but also a product of a company's internals strengths and weaknesses, which play a key role in determining company success. Cf. Hungenberg (2000), p. 62.

[224] For the purpose of this thesis resources will be understood as defined by Daft (1983): *"Firm resources include all assets, capabilities organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness."* (Daft (1983), p. 87.

[225] Cf. Bamberger (2005), p. 42.

have to build complex casually ambiguous relationships with other firm-specific resources and capabilities to create the difficult to imitate competences. The creation of this competitive advantage is enabled through imperfect or incomplete factor markets, which create barriers that disable the mobility and equal distribution of resources across competing companies. The characteristics of the resource markets influence the resources themselves and their rent generating potential. This potential is not only developed as a response to factor market imperfections but also as the result of unique historical circumstances and the accumulation of specialized capabilities. This leads to the conclusion that a sustainable competitive advantage according to the RBV perspective can be achieved as a result of sound managerial action, exclusive resource accumulation and deployment, the strategic factors of the industry and the imperfections of the factor markets.[226]

The main critique of the RBV falls in the domain of the tautological nature of the RBV. This means that the reasoning in RBV is circular, meaning that the resource value can only be estimated in certain contexts. The use of resources can lead to a competitive advantage. This advantage defines the competitive structures which are relevant for the company and these structures again define what a valuable resource is. This would mean that the basic assumptions of the RBV are true by definition and can therefore not be subjected to empirical testing. Although in defense of the RBV, Barney (1991) countered that the way in which this critique is set up, all strategic management theories would be considered tautological.[227]

Lastly, it is important to note that although the market- and resource-based views have a different view on gaining a sustainable competitive advantage, they cannot be viewed as opposite but rather as complementary. Strategic success in the market can only be achieved if the resources of the company meet the demands of the consumers. This leads to the conclusion that the only way the resources represent a value is if they are able to generate products that are able to compete on the market.[228]

The role of the niche in the resource-based view can be identified within the competitive behavior that produces a niche as a result of *disruptive technology* (as sometimes also referred to as *disruptive innovation*). Disruptive innovation is based

[226] Cf. Mahoney/Pandian (1992), p. 363f; Lado et al. (1992), p.84; Day (1994), p. 38; Hunt/Morgan (1996), p. 109; Oliver (1997), 698f; Barney et al. (2001), p. 626f; Lockett et al. (2009), p 11f. See also appendix, figure A-3.

[227] Cf. Priem/Butler (2001a), p. 27f; Priem/Butler (2001b), p. 58f; Barney (2001), p. 41; Fahy (2000), p. 100f.

[228] Cf. Bea/Haas (1997), p. 31.

on the notion that new products with inferior performance can displace existing technologies by first focusing on low-end cost orientated customers and then revolutionizing the entire market (see figure I-14).[229] Disruptive technology can be defined as:

> "A disruptive technology is a technology that changes the bases of competition by changing the performance metrics along which firms compete." (Danneels (2004), p. 249)

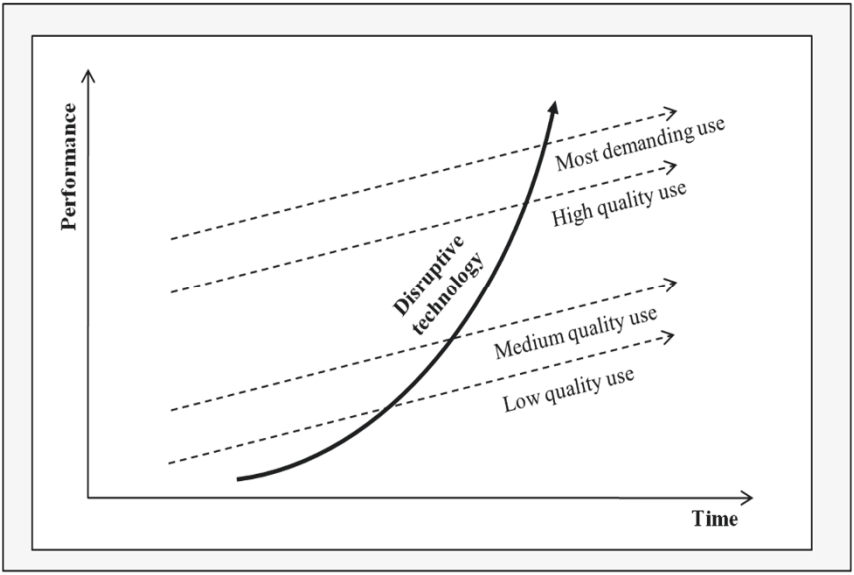

Figure I-14: Disruptive technologies (disruptive innovation) over time.
(Source: own interpretation on the basis of Ron Adner/Zemsky (2005b), p. 233et seqq)

These disruptive technologies showcase technologies, which have inferior performance in comparison to the mainstream technologies. This performance dimension is vital for the mainstream customers. Therefore, disruptive technologies in their early stages are only able to satisfy market niches, which place value on the special performance characteristics of these technologies. In time, this niche technology is developed even further to meet the demands of the mainstream customers, although

[229] Cf. Christensen (1997), p. 39ff. Debruyne (2005) defines the niche innovation within the disruptive technology framework as the introduction of a new technology, which creates a new market opportunity in the scope of an existing industry setting. Debruyne/Reibstein (2005), p. 55f.

it still remains inferior in performance in comparison with the mainstream technology. The technology disruption takes place when the new technology despite its inferior performance manages to displace the incumbent technology in the mainstream market.[230]

The main focus is on the needs of the customers, which represent the foundation for benefits which the customers can derive from the product. The benefits which the customers look to achieve from a certain type of product determine the characteristics of the products, which have value from the customer perspective. As a result, various products can offer a differentiating level of performance in different product dimensions. Consequently, this technological disruption is the consequence of three factors:[231]

- Mainstream technologies which are outperformed by disruptive technologies on factors, which are the most important for mainstream consumers,
- mainstream customers which switch to disruptive technology despite the superior performance of the mainstream technology
- failure to recognize and react to the threat of newly disruptive technologies by incumbent companies.

The disruptive technology has forced managers and scholars to reconsider the approach towards how technological threats and opportunities are assessed. The approach is moving away from the classical supply-side explanations of technology development, which are based on the interaction of firms and technologies. Instead it focuses on the impact of market demand, more specifically on consumer demand and its role on technology development.[232] There are many examples of disruptive technologies, perhaps the most prominent being the example of the hard disk drive industry.[233]

The connection between the disruptive technologies and the niche is established in the commercialization stage of the disruptive technologies, where the new technology positions itself in a niche market segment. From here on out the disrup-

[230] Cf. Utterback/Acee (2005), p. 1; Kassicieh et al. (2002), p. 668; Danneels (2004), p. 247; N.U. (2001), p. 10f; Ron Adner (2002), p. 668; Ron Adner/Zemsky (2005a), p. 231; Danneels 2006, p. 2f; Markides (2006), p. 19; Tellis (2006), p. 34; Padgett/Mulvey (2007), p. 375.
[231] Cf. Danneels (2004), p. 249;Ron Adner (2002), p. 669.
[232] Cf. Ron Adner (2002), p. 668.
[233] Cf. Christensen (1997), p. 5ff.

tive technology can either remain in its niche or move on and challenge the mainstream technologies in the total market. According to Adner (2005), the disruptive technologies have to be separated from the niche technologies, which remain isolated in their market niches and do not proceed to compete in the mainstream market.[234] However, the interest of this thesis is exactly on the technologies, which choose to remain in its protected market niches.

Debruyne/Reibstein offer the example of online-brokers in which the niche position sets a mechanism of competitive behavior in motion, if the central resource, on which the niche position is based is not inimitable up to an adequate degree.[235] As soon as the competitors have the possibility of entering the market niche, looking from a resource standpoint, three key factors are decisive, if a market entry can happen:[236]

- The opportunity to harvest profits from the entry into the niche, in connection with the financial consequences of a niche entry.
- The relevance and the attractiveness increase, which is attributed to the niche with the market entry of competitors.
- The market entry of competitors in the niche reduces the perceived risk of market entry.

Debruyne/Reibstein have empirically shown that the behavior of competitors, as well as the characteristics of the firm are the two decisive factors for a market entry into a niche. Scale and the resource configuration play a central role. The similarity of companies in these two dimensions increases the probability that their response to a disruptive technology in a niche will be similar as well.

The main critique of the concept of disruptive technologies is based on the scope to which the main propositions apply to. The notion is that disruptive technologies enter the market with an inferior performance to that of incumbent products. Utterback (2005) states various examples, where the disruptive technology enters the market with an enhanced performance than the mainstream technology.

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[234] Cf. Ron Adner/Zemsky (2005a), p. 229f.

[235] Online-brokers are a typical disruptive innovation, which is initially inferior to the existing products on the market. It first attracts low-end customers, before attacking the established market segments. Cf. Christensen/Overdorf (2000), p. 72. The technical infrastructure was the central resource, which enabled the creation of a niche position (at least for a short period of time), in the case of the online-brokers. Debruyne/Reibstein (2005), p. 56.

[236] Cf. Debruyne/Reibstein (2005), p. 57.

Similarly some new technologies which were considered disruptive, also introduced a technology at a higher cost than that of the initial technology.[237]

The next paragraph will move away from the internal company perspective of the resource based view. The essence of the relational view is that a company harvests its competitive advantage from the relationships from within its network.

(d) Relational view. The relational view is complementary to the resource-based view with a quintessential difference of focusing on networks. The relational view sees the sources for competitive advantage also on the outside of the companies, namely in its relationship with other companies. Key for the relational view is the understanding that a company does not only have interactions with its competitors, but also with other actors in its external environment. This external environment consists of various network suppliers, customers, regulators, trade associations and others.[238] If the relationships with other companies would be viewed as a resource, the relational view could be classified as a sub-branch of the resource-based view.[239] The advantage of network relationships can only be realized, if both companies invest in the mutual network. As a consequence, the analysis of competitive advantages cannot be restricted to one company, but has to consider the relationships between the companies in these networks. Through the combination of resources and the investments in common processes, these companies are able to achieve interorganizational competitive advantages.[240] There are four different dimensions of interorganizational cooperation, which are conceivable and empirically relevant:[241]

- Investments in relationships-specific products/ value building processes
- Knowledge exchange and collective learning
- Consolidation of resources for the creation of unique products
- The reduction of the transaction costs between the two parties

The niche in the relational view can be observed within *business ecosystems*.[242] The increasing industry consolidation, which is dominated by large companies, is leading to the creation of business ecosystems.[243] A business ecosystem represents a

[237] Cf. Utterback/Acee (2005), p.7f; Markides (2006), p. 24; Tellis (2006), p. 38.
[238] Cf. Deephouse (1999), p. 148f.
[239] Cf. Dyer/Singh (1998), p. 660.
[240] Cf. Oliver (1990), p. 241.
[241] Cf. Dyer/Singh (1998), p. 662.
[242] See Iansiti/Levien (2004).
[243] Deans et al. (2003), p. 6.

business community of interacting companies, business units, technologies and products, who all exhibit dynamics which are similar to the dynamics displayed by an ecosystem. The network relationships in this community play a vital role because their interactions at one level can impact the development and shape of these relationships on other levels (see figure I-15).[244]

A central role in the business ecosystem is played by the keystone. Keystones are companies, whose role is the most vital for the ecosystem because they create advantages for the entire ecosystem and its members.[245] A keystone's strategy is based on the general well being of the ecosystem which benefits the keystone, as well as all the members in the business ecosystem. It is concerned with the management of resources, shaping network structure and maintaining the external health of the ecosystem.[246]

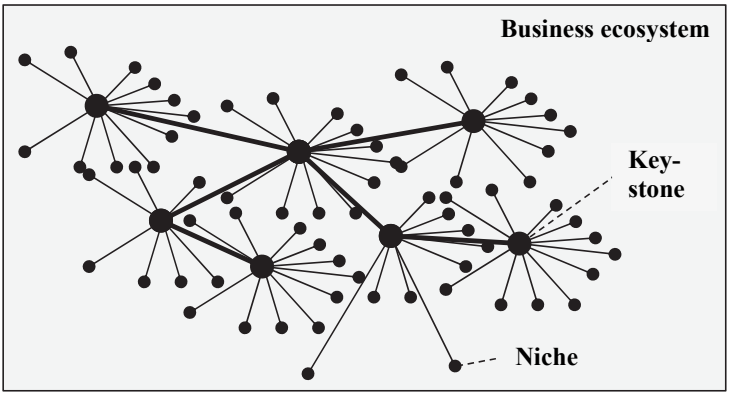

Figure I-15: Business ecosystem.
(Source: Iansiti/Levien (2004), p. 73.)

The niche strategy in the business ecosystem is defined as:

> "(…) an operating strategy that specializes capabilities, to differentiate a business within an ecosystem domain. The fundamental advantage of a niche

[244] Cf. Moore (1996a), p. 26.
[245] The health of the entire business ecosystem is dependent upon the health of the keystone. The removal of a keystone company from the ecosystem could potentially have a devastating effect on the survival of other companies through the entire business ecosystem. Examples of a keystone are companies such as Microsoft. Cf. Iansiti/Levien (2004), p. 68.
[246] Cf. Iansiti/Levien (2004), p. 82.

> player (…) is specialization. Niche players specialize by leveraging the services provided by the keystone in their ecosystem and by concentrating on the acquisition of businesses and technical capabilities that directly support their niche strategy." (Iansiti/Levien (2004), p. 128)

These niche players have a typical number of relationships and represent a critical part of the ecosystem because of their quantity. They are usually situated at the edges of the ecosystem and rely heavily on the health of the entire ecosystem for their existence.[247]

As can be observed from the various branches of strategic management described above, there are various viewpoints on what constitutes a niche or a niche strategy. One can make the conclusion that niches in strategic management are based on:

- specialization in a market segment which they can satisfy better than the competition, either through lower costs or product differentiation,
- through a combination of resources, which enables the company to achieve innovations that are initially placed in the lower end of the market before enhancing the product capabilities and attacking the mass market and
- through the leverage of its network relationships within the business ecosystem where they can achieve a competitive advantage by concentrating on business acquisition and technical capabilities.

All these characteristics will be considered and included in the development of a niche definition for strategic management in chapter I.2. Following the overview of the niche in strategic management is an upgrade of the primary research with the new developments and trends in niche research in contemporary strategic management.

(3) Niche approaches and future directions in contemporary strategic management

After reviewing the fundamental niche literature in strategic management, the following point will focus on the evolution of the basic literature. This will provide an understanding of how the niche has developed and how it has been applied in subsequent research projects. The emphasis will be placed on four key works:

(a) Danner's (2002) *"Strategisches Nischenmanagement - Entstehung und Bearbeitung von Marktnischen"*,

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[247] Cf. Iansiti/Levien (2004), p. 68., p. 125f.

(b) *"Wachsen in Nischen"* form Kröger/Vizjak/Ringlstetter (2006),
(c) Trachsel's (2007) *„Nischenstrategien und ihre Bedeutung für den Unternehmenserfolg"*, and
(d) *„The Long Tail - Der lange Schwanz"* from Anderson (2007).

(a) Danner's work was one of the first publications, which exclusively dealt with the topic of strategic niche management. His objective was to explain the creation of niches, define and separate the niche strategies from other approaches, determine the possibilities for niche strategy formulation and find an application for these strategies.[248] This application of strategic niche management was based on a process model.

According to Danner a niche is defined as a profitable market segment, which is created when a producer in a segmented market specializes on certain consumers, products or regions and satisfies the demand for the first time or more precisely.[249] As can be observed, this definition of the niche is based on Porter and the market-based view.[250] The niche is defined with three-dimensions; consumers, products or geographical region (see figure I-16).

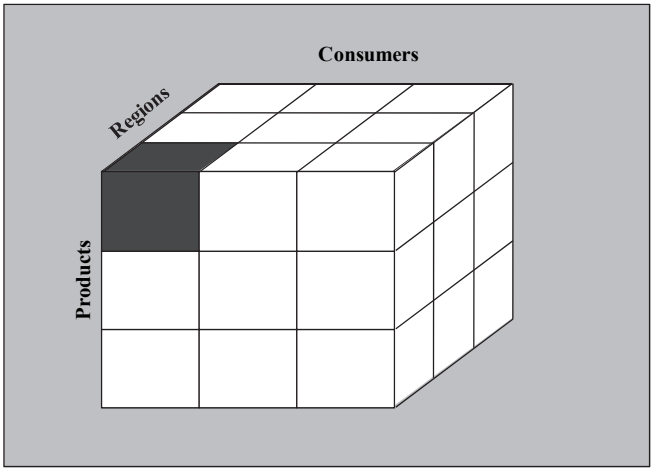

Figure I-16: Formulation of niche strategies.
(Source: Danner (2002), p. 225.)

[248] Cf. Danner (2002), p. 3f.
[249] Cf. Danner (2002), p. 55.
[250] See Porter (2004).

The market has to be segmented if a niche is to be identified, but the segmentation alone is not sufficient for a market niche to exist. A market segment is considered a niche if it realizes any of the three niche economies: individualization, specialization, and concentration.[251] Based on this definition Danner goes on to define a niche strategy. Which he describes as an approach aligned to create a market niche by focusing on a market segment and to shape it as goal oriented.[252]

From the knowledge gathered in the previous point on niches in strategic management, an obvious shortcoming of Danner's niche and niche strategy definition is that it fails to include any of the other three views. It uses only a top-down-approach, whereby completely neglecting the role of company resources, processes and its relationships with its competitors. In conclusion, Danner is only able to identify those niches which are the result of external market observations, based on unfulfilled demand and failing to include the internal and relational capabilities of companies to create niches.

Following Danner, the next approach is based on industry structure and niche strategies as an answer to the adaptation to this structure.

(b) The work of Kröger/Vizjak/Ringlstetter (2006) on the growth of niches is based on the findings made about industry structure by Deans/Kroeger/Zeisel (2003) *"Winning the Merger Endgame"*. The merger endgame is based on the concept of industry consolidation, which states that:

> "All industries consolidate and follow a similar course. (…) Industries are transformed during consolidation; thus the pattern inevitably forms an S curve that divides into four stages. Each stage implies specific strategic and operational imperatives (…)." (Deans et al. (2003), p. 4.)

The industry consolidation process usually happens in 20-25 years and is divided into four stages: opening, scale, focus, and balance and alliance stage. According to their findings on industry consolidation the authors conclude that:[253]

- Company size is irrelevant in the process of industry consolidation; If a company wants to survive, it has to grow.
- A company cannot survive the merger endgame exclusively with organic growth; it has to include anorganic growth as well.

[251] Cf. Danner (2002), p. 52f.
[252] Cf. Danner (2002), p. 63.
[253] Cf. Deans et al. (2003), p. 5.

- The niche markets cannot remain protected once the competition becomes global.[254]

On the basis of these findings, Kröger/Vizjak/Ringlstetter (2006) developed 9 different niche strategies which will enable niche players to survive the process of industry consolidation (see figure I-17).[255]

These 9 different niche strategies: regional niches, target group niches, product niches, branding niches, speed niches, innovation niches, cooperation niches, market split-up and counter niches are designed for the different phases of the merger endgame curve. Although a niche strategy is recommended for a certain phase, it does not mean that a company cannot employ it in a different phase, if the industry structure would permit it. The general idea is that a company has to evolve its niche according to the industry structure in order to survive the industry consolidation. A company which fails to develop its niche strategy further will fall prey to industry consolidation once the niche strategy does not provide a competitive advantage in relation to its stronger competitors. These strategies however, do not necessarily have to be followed sequentially but can instead be developed according to the company's core competences in ascending order.[256]

It is based on the influence of industry structure in regard to the strategic options of a company in a specific industry. From this standpoint Kröger/Vizjak/Ringlstetter (2006) take the classical market-based view approach, which is used to determine the company's position in an industry. Additionally, the authors were also able to integrate two additional views, which are included in the strategic possibilities of a niche player, namely, the core competences of unique resource structures and the ability of companies to achieve a competitive advantage through its network relationships.

[254] Although the authors do not state what constitutes a niche market.

[255] These 9 strategies were based on the hypothesis that approximately 80% of the companies in the market are potentially designated niche players. This was done through the analysis of approximately 32,000 stock listed companies worldwide, which account for about 60-70% of the total global GDP in a particular country. In addition, there are about 660,000 total companies worldwide and if we consider the hypothesis above, that 80% of the companies are potential niche players there is about 600.000 potential niche players globally. Cf. Kröger et al. (2006), p. 10f.

[256] Cf. Kröger et al. (2006), p. 25ff.

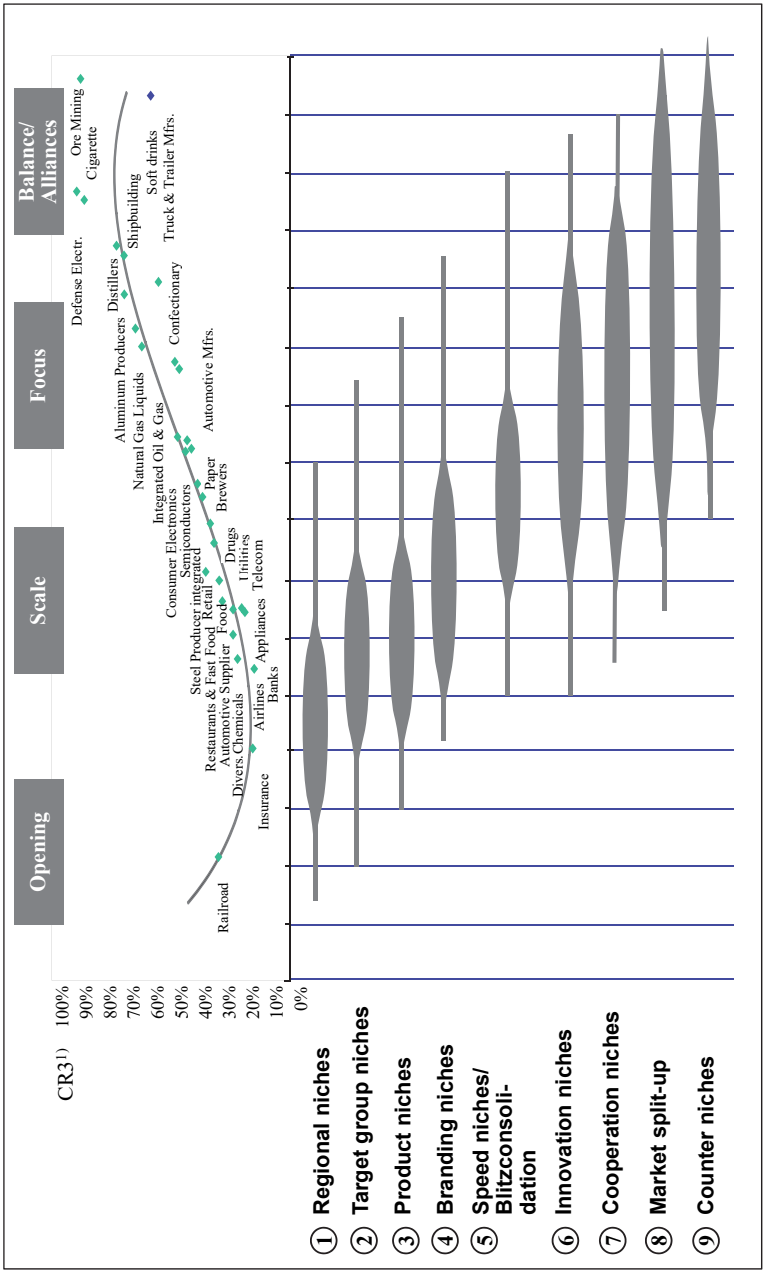

Figure I-17: Merger endgame curve and the niche strategies. (Source: Kröger et al. (2006), p. 15)

(c) Much of Trachsel's work on niche strategies is based on the framework designed by Danner (2002). Trachsel expanded the formulations from Danner and in addition explored certain nice strategies with the help of critical success factors.

His main objectives were to identify the relevant niche strategies, which can be found in the field of strategic management and research the relationship between the success and these strategies under the influence of contextual (environmental) factors.[257] To achieve this objective he based his research on the classical outside-in perspective of the market-based view. As part of the market-based view, the contingency approach was applied in order to determine the different possibilities of the relationship between industry structure-strategy-success.[258]

His approach towards a definition of a niche and niche strategy followed a similar pattern as Danner's. Trachsel defined the (market) niche as a limited market area, which encompasses a certain market segment (group of customers) and/or a certain part of the market (product group) and/or covers a limited geographical area in which there are unsatisfied or insufficiently satisfied needs and an existing possibility to satisfy these needs better than the competition.[259] He goes on to define a niche strategy in very simple terms as a competitive strategy, whose objective is the development of market niches.[260]

This definition of a niche is constructed from two parts. The first part is the market restriction or limitation which is based on Porter (1980), who sees this limitation in focusing on a market segment as part of the market or a geographic area.[261] The second part is based on the extent of demand satisfaction, which is aligned with the understanding of Danner.[262] Although the extent of demand satisfaction is defined through unfulfilled needs and unsatisfied needs, it does not recognize the ability of a company to create a need for which there was previously no demand. This

[257] Cf. Trachsel (2007), p. 19. The objective of the contingency approach is to make built statements on a medium abstraction level about the relationship, the situation and behavior, to determine the course of action, which is appropriate for the given situation. The results of the contingency approach are findings, which are valid in most cases but not all cases, and therefore have a higher level of generalization. Jenner (1999), p. 27.

[258] Cf. Trachsel (2007), p. 33.

[259] Cf. Trachsel (2007), p. 57.

[260] Cf. Trachsel (2007), p. 70.

[261] Cf. Porter (1983), p. 67.

[262] Cf. Danner (2002), p. 55. Trachsel additionally expanded the understanding of demand satisfaction by including the latent and manifest niches formed by Spiegel. These have been already extensively discussed in the market psychological niche approach in business sciences. Spiegel (1990), p. 7.

is due to the shortcomings of the application of the market based perspective. Additionally, the author discards three potential components of a niche definition because of the aforementioned limitations of the market based perspective. These components are: protection from competition, a higher willingness to pay, companies capabilities.[263] On the basis of these assumptions and limitations, the author was able to identify six different types of niche strategies.

The main issues facing the research done by Trachsel are more or less the same limitations which were already mentioned in the shortcomings to Danner's niche understanding. Nonetheless, the author managed to enhance and develop the understanding of the market niche and identify six different market niche strategies through an empirical analysis of the critical success factors with the application of contextual factors.

(d) Lastly, there will be an overview of Andersen's *"The Long Tail"*.[264] This publication is based on the influential article with the same name, which Andersen published in wired magazine in 2004.[265] The author explains why and how the market for digital technologies is changing from a mass market to a market of niches. He predicts that the future of the business will be in selling less, but in a greater number of product types. This revolutionary change in market conditions will create a mass of market niches.[266] The reason for this occurrence is in the long-tail phenomena (see figure I-18).

[263] The exclusion of these components will not be analyzed in detail at this point. It is sufficient to say that a niche definition based only on the market-based view is insufficient. A detailed description of these components will be provided in chapter I.2 Niche definition for strategic management.

[264] The phrase „long tail" comes from the statistical expression for the low-frequency portion of a statistical distribution.

[265] As a result of reader feedback to this article, the long tail had an average of 5.000 readers per day. Andersen wrote a book about the long tail, based on his own findings and user feedback. Cf. Hitt (2007), p. 83.

[266] Cf. Hitt (2007), p. 83; Lidstone (2007), p. 679.

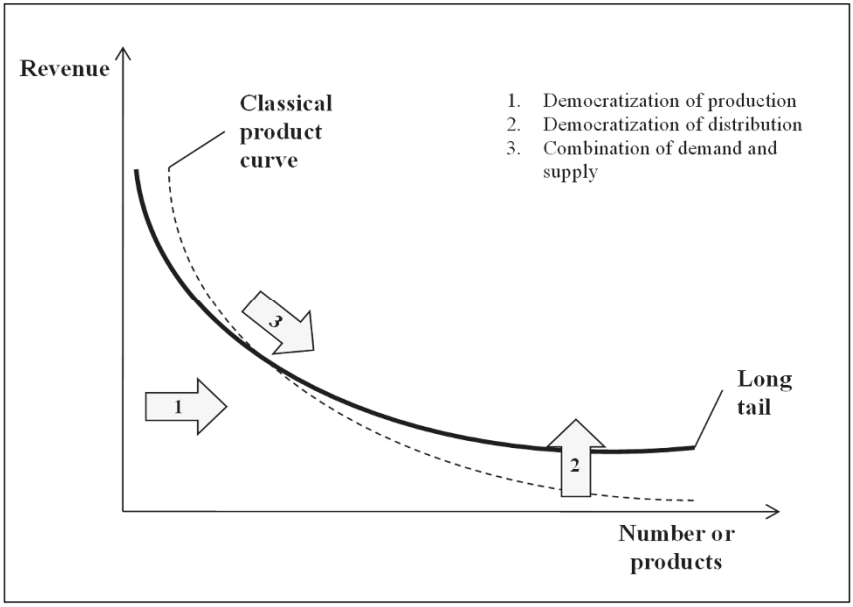

Figure I-18: The long tail.

(Source: own interpretation according to Anderson (2007), p. 22f.)

The long tail is the consequence of a historical development which started with a high segmentation rate before the industrial revolution, over to a phase of concentration on the mass market and finally to a new segmentation at the end of the twentieth century.[267] Three forces have and still shape and influence the form of the long tail. These forces are: democratization of production, democratization of distribution and the combination of demand and supply.[268] These three forces have the following characteristics:

- The overall number of offered commodities is increased if a growing number of individuals have access to the production technology.[269] This *democratization of production* extends the long tail to the right (see arrow 1 in figure I-16).

[267] Cf. Anderson (2006), p. 7.
[268] Cf. Anderson (2006), p. 54ff.
[269] E.g. a growing number of personal computers enables individuals the creation of digital contents by themselves.

- The produced commodities have the possibility to be distributed by a large number of individuals; this increases the number of individuals who are the consumers of a specific product type.[270] This situation is called the *democratization of distribution* and it makes the long tail thicker (see arrow 2 in figure I-16).
- The *combination of demand and supply* lastly reduces the search costs of the consumers and makes the niche products easier to communicate.[271] This force makes the long tail thinner in the area of top-selling commodities and thicker in the areas dominated by commodities which are not top-sellers (see arrow 3 in figure I-16).

The occurrence of these three forces, either individually or in combination, leads to a simplification of segment development into niches. The basic conception to develop niches within the long tail includes two relevant imperatives:[272]

- *Make everything available*. This includes the first two forces, democratization of production and distribution.
- *Help me find it*. This enables the interaction between interested consumers and producers through the means of the appropriate direct or indirect communication.

Whereas new possibilities of niche strategies are being constantly created, the continuous segmentation of the mass market on the other hand is dissolving the competitive borders. Consumers can step into the role of the producer and for instance create and distribute their digital contents because of the democratization of production and distribution techniques. The creation of new market opportunities also brings forth the creation of new competitors in the market.[273]

Although the long-tail can be applicable only to some products – most notably to digital media and includes only the market-based perspective on niche creation, it brings forth a revolutionary concept for the creation of new niches.[274] It no longer sees the mass market as the dominant market but rather as a market that is dissolving

[270] E.g. e-bay is an example where products can be distributed by every user, for only a marginal cost.
[271] E.g. word of mouth communications, customer reviews of products on Amazon and different types of blogs where consumers can exchange their views and opinions.
[272] Cf. Anderson (2006), p. 54ff.
[273] Cf. O'Reilly (30.09. 2005).
[274] Although there have already been some excursions into other areas of applicability product liability exposure. Cf. Warfel (1993).

and being segmented into many niches. The second important discovery lies in the conclusion that a broad product differentiation will eventually have a greater total benefit than a narrow product assortment with only top selling products. It proves that the 80/20 rule of traditional retailers is irrelevant in the digital media business because the long tail markets: (a) have a much wider product offer than traditional markets, (b) because these products can be located much easier and are much more evenly divided between top-sellers and niches and (c) because niche economics are similar to the economics of top-sellers, profits can be generated across the board.[275]

In conclusion of the first part of the first chapter there will be a short summary of the key findings from the literature review. These findings can be summarized with the following points:

- Through its development in ecology, social and business sciences, the niche was never considered a research field where there is no controversy. There is little agreement as to what a niche actually is and what its primary focus of inquiry is. These differ from author to author not only in business sciences, which was the youngest discipline to adopt the niche as its own, but also ecology and social science, where the niche is sometimes considered mature concept.
- The niche and niche strategies in strategic management are usually confined to the market-based view of the firm. This paradigm has developed the most sophisticated approaches and strategies for niche management. Coincidentally, the main limitations of the market-based view also happen to be the limitations of the niche research in this field, namely, that it limits the research possibilities to the external influences (market, consumer, product group).
- This review was able to prove that the market-based view is an insufficient methodologically and does not provide a complete picture of niches in strategic management. There are three additional fields of strategic management, which have to be included in the discussion of the niche: resource-based view, process-based view, and the relational view. These three views provide a unique point of view, which was previously out of sight because of the limitations of the market-based view.
- The inclusion of these additional three views enabled new and exciting discoveries about the niche, which were previously not known. E.g. niches can

[275] The abundance of the 80/20 rule happens mainly because of the cost and limitations impacts traditional retailers have on shelf space, warehousing and distribution. Cf. Hart (2007b), p. 275.

> be created in stagnating markets, niche products can have inferior performance and still be successful on the market and niche markets in specific cases are dissolving mass markets…

Based on these conclusions, it is starting to become obvious that there are many more facets to the niche in strategic management than previously assumed. It will therefore be the goal of the second part of the first chapter to provide a new definition of a market niche for strategic management. This definition will be based on the new insights gained from the literature review and will present an integral part for the creation of the strategic market niche management model as a framework for the creation of strategic management theory of market niches.

I.2 Niche definition for strategic management

The second part of the first chapter will deal with the definitions of the niche in strategic management. These definitions will be constructed on the groundwork done in the previous chapter and will use the insights from all three analyzed disciplines. Definitions of strategic management, niche and niche strategy will be the main outcome of this chapter. The results of these definitions will later have a strong influence on the model building process because the definitions will present an integral part of model building.

The second part will be structured into three sequential and connected parts in regard to the content, which will lead to the final objective of the first chapter, a definition of a niche for strategic management. Similarly to the first part, the chapters will start out very broadly before being narrowed down to the topic at hand. The first chapter of the first part will focus on the definition of strategic management (chapter I.2.1). Although this may seem trivial, a *strategic management* definition is not as self explanatory as one may assume due to the interdisciplinary nature of the field. The second part will deal with the *definition of a niche* (chapter I.2.2); this will answer the question of what constitutes a niche, which are its main characteristics and how it can be identified. The third part will integrate the findings from the first two parts in order to formulate a *definition of a niche strategy* for strategic management (chapter I.2.3).

I.2.1 Strategic management

The question of what strategic management is, is not quite as easy to answer as initially thought. Strategic management as a field does not have a long history. It is in its core an interdisciplinary field which overlaps with various other disciplines, such as economics, sociology, psychology, marketing, and finance.[276] If one considers the current status of the field, it can give a complex picture of numerous approaches and paradigms. Instead of a conclusive general theory, which encompasses strategic management there are many independent statements, which have been derived from different concepts and approaches.[277] One of the objectives of this sub-chapter is also to find the appropriate statements on the basis of which, conclusive definitions of the niche and niche strategy will be possible.

This sub chapter will be structured in three points, (1) dealing with the *structure, objects and processes of strategic management*, (2) will explore the *different levels of strategy*, and (3) the final point rounding up the sub chapter with the *definition of strategic management.*

(1) Structure, objects and processes of strategic management

The first point will provide a basic understanding of strategic management, what are its main objects and which processes it includes. This understanding is key in order to provide comprehensive niche definitions which are aligned with the basic principles of strategic management and strategy.

Strategic management is based on strategic decisions. Strategic decisions can be classified as those management decisions, which from a superordinate standpoint decide the strategic direction of a company. Their objective is to ensure the long term success of the company which must incorporate the following criteria:[278]

- to recognize and understand path dependencies,
- it has to be able to react to the current dynamics of change, and
- it has to be able to implement strategic programs on the foundations laid by the previous two points.

[276] Strategic management scholars embrace the diversity and the interdisciplinary nature of the field as an advantage rather than a problem. Cf. Sridhar P. Nerur (2008), p. 319; Rajiv Nag (2007), p. 935.
[277] Cf. Bea/Haas (1997), p. 24f.
[278] Cf. Vance (1970), p. 6; Hungenberg (2000), p. 6.

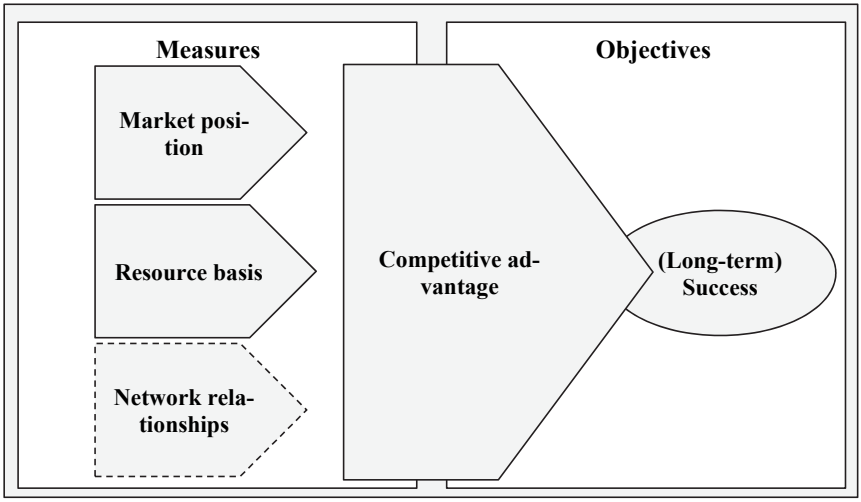

Figure I-19: Basic understanding of strategic management.
(Source: own interpretation according to Hungenberg (2000), p. 6.)

These objectives are comprised of the decisions regarding the market positioning of the company and its resource configuration (see figure I-19). The network relationships have been purposely detached from the other two components. Firstly, because their importance and the number of research publications devoted to them has exclusively grown in recent years, particularly in regards to the strategic decisions and secondly because of their importance to niche strategies.[279]

Based on this, one can conclude that strategic management makes informed decisions about the future, which are determined through the weighing of possibilities regarding the impact and effects in regards to the main objective of the company – to achieve long-term success. Strategic management can be labeled as a planned evolution, whereas the opposite would be unplanned random development.[280]

Looking at strategic management from the aspect of the objects which they include, a distinction can be made between the following three objects: *strategies*, *structures* and *systems*. A distinction can be made between these three objects based on the applied approach for each of the circumstances they are trying to explain.

[279] The importance of the process-based and relational view for the inclusion into the niche definition has been highlighted in the sub-chapter I.1.3 point (2).
[280] Cf. Kirsch (1997), p. 290.

This is primarily based on the purpose and objectives of the research on a specific topic (see figure I-20a).[281]

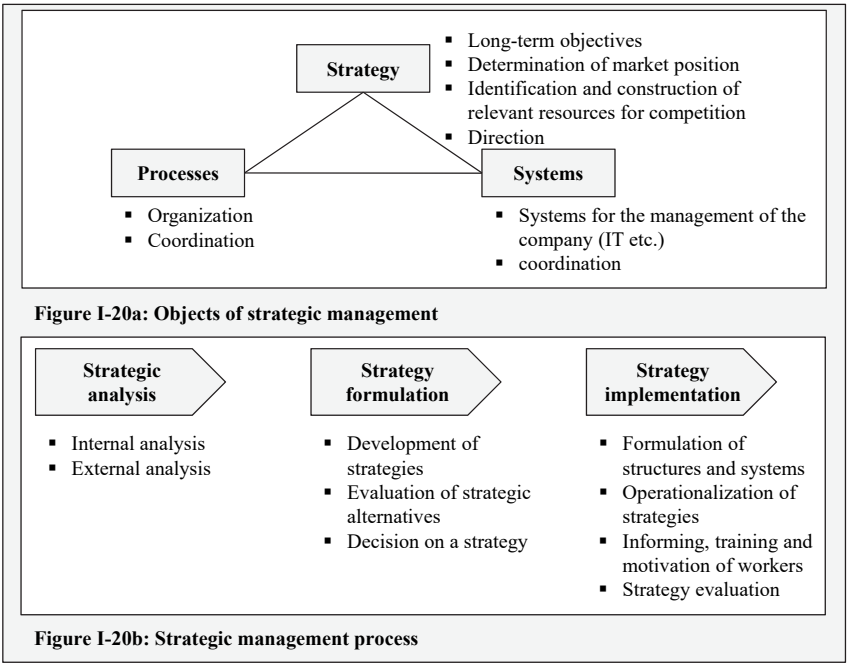

Figure I-20: Objects and process of strategic management.

(Source: own interpretation according to Hungenberg (2000), p. 8et seqq.)

A strategy is made up of four key components: [282]

- determining the future position of the company in its environment,
- decisions on technologies, resources and capabilities, which will enable the company to achieve this position,
- the allocation of these technologies, resources and capabilities to achieve a competitive advantage and
- the communication of criteria and standards upon which the successful implementation of the strategy will be measured upon.

[281] Cf. Hungenberg (2000), p. 8.
[282] Cf. Hinterhuber (1984), p. 24.

Processes, as understood in the context of strategic management can be defined as the implications/outcomes of activities.[283] This view also includes different forms of how these processes unwind and are complemented by the inclusion of a content oriented perspective.[284]

The systems within strategic management can be summarized as vital instruments, which are necessary to manage a company. They can be very different and are therefore separated into two parts: as a subject matter of strategic management, and as an institutional framework. The subject matter view of systems include various management, planning, controlling and other systems within a company. They become the components of the realization of the company policy, through the construction and alignment of structures and systems. On the other hand, the management systems, organizational structure and company structure represent the institutional framework of the company where the processes of strategic management take place. They influence the activities, as well as the results of strategic processes and therefore have the ability to create and implement new objectives and strategies.[285]

In summary, the objects of strategic management are those instruments which determine the course and development of a company, by establishing the foundations upon which the company can achieve and realize its future direction. Strategies give a company direction for the future activity while the systems and processes coordinate these activities in the interests of the strategy.[286]

The strategy process can be divided into three different steps (see figure I-20b):[287]

- *Strategic analysis*: the main objective of this step is the decision on which strategy to choose. In order to be able to make this decision a company must first analyze the necessary internal and external environment of the company.
- *Strategy formulation:* on the basis of the strategic analysis, the company makes different strategic alternatives, which it can choose from. These alternatives decide about the appropriate positioning of the company in its competitive environment. The final decision on an appropriate strategic alternative is based on the degree of fulfillment of company objectives.

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[283] These include the about decisions, actions and interactions which lead to the creation of objectives and strategies.
[284] Cf. Bamberger (2005), p. 93.
[285] Cf. Kirsch (2001b), p. 218ff; Ringlstetter (1995), p. 156ff; Bamberger (2005), p. 93f.
[286] Cf. Vance (1970), p. 5; Hungenberg (2000), p. 9.
[287] Cf. Hungenberg (2000), p. 9f.

- *Strategy implementation:* if a strategy is to be realized, the company has to perform certain activities in order to enable the realization of the envisioned strategy. It is therefore the objective of the strategy implementation that the appropriate course of action is taken in order to assure the selected strategy is implemented according to plan. For this purpose, the processes and systems have to be aligned with the strategy. On this basis, the planned changes of strategies, processes and systems are operanationalized and executed.

After gaining a basic understanding of the objectives, objects and processes of strategic management and their interdependencies and influences on one another, the attention will turn towards the different levels of strategy, namely the corporate and business unit level.

(2) Different levels of strategy

After determining what constitutes strategic management and how the process of strategic management looks like, there will be an overview of how it applies to different company levels. In general we can identify strategy at three different levels of a company: the *corporate* level, the *business unit* level, and the *functional* level strategy. For the purpose of this thesis only the corporate and business unit level strategies will be included, since the functional level strategy can already be labeled as too operational for it to be included into the analysis.[288]

The corporate level strategy generally deals with the question of *"Where to compete?"* and the business level strategy with the question of *"How to compete?"*. These strategies can be described as:

- *Corporate strategy*. Includes all areas of business of a company and is the objective of company policy and strategic management. It specifies, on the basis of which intentions and in which markets the company will compete and how the business units are to be managed – hence where to compete.[289] The main component of a corporate strategy is the strategic target portfolio. This target portfolio dictates how the company resources are divided among

[288] Functional level strategies use the organizational hierarchical foundation as a relational foundation. They deal with the implementation, coordination and interfaces of operational tasks. Functional areas in a company are e.g. production, marketing, logistics, finance and accounting etc., therefore they present a vital component of company success. Cf. Steinle (2005), p. 304.

[289] Cf. Steinle (2005), p. 304.

the different business units, entails the key steps that will lead the company from its current position to its envisioned position and the objectives and means to achieve this target portfolio in the planned time.[290]

- *Business level strategy.* As opposed to the corporate level strategy, the business unit strategy is located at a different level and also has different content. The objective of the business units is to be amongst the leading competitors in the market segment in which the business unit currently operates or will operate. Therefore, the business unit strategy must include the market objective, meaning the product or services which it will supply to consumers on the basis of certain technologies, its competitive advantage in the market, a time plan to achieve these objectives, and the expected results of these actions.[291]

This distinction is not only important for the differentiation between corporate and business level strategies but also has two important influences on how niches are understood. As the corporate strategy deals more with the market-based perspective of determining where the company should position itself in the market, the business level strategy deals with the internal perspective of how the company's resources and relations should be used to generate a competitive advantage. This distinction is important because it often leads to confusion; as most approaches to niche strategy are market based and describe corporate strategies but at the same time they develop and apply niche strategies at the business unit level without making a clear distinction. These corporate strategies usually include technology and innovation as a competitive advantage of the niche strategy, without acknowledging the business unit level aspect.

The second aspect has to do with company size. Companies that employ a niche strategy are usually considered to be small in size and competing in a remote segment of the market, which is of no interest for the market leader. Considering the distinction between corporate level and business level strategies one can make the conclusion that the application of a niche strategy at a business unit level is irrelevant to company size. A market leader that employs a mass market corporate

[290] The attributes of a successful target portfolio are business units in attractive markets, synergy effects between business units, a healthy risk-benefit ratio and a healthy cash flow. Cf. Hinterhuber (1984), p. 132.

[291] Cf. Steinle (2005), p. 305; Hinterhuber (1984), p. 76.

strategy can also pursue a niche strategy in one of their business units as a complementary strategy. This is important for the study of niches since the company size does not limit the application of a niche strategy at the business unit level.

Based on the conclusions gathered so far on the basic understanding of strategic management, its objects and processes and deeper insight into different levels of strategy, a definition of strategic management can be provided. This is the objective of the next point.

(3) Definition of strategic management

In order to provide a definition of strategic management a three step approach will be applied in this point. Firstly, the main parameters of strategic management will be observed. Secondly, an overview of existing definitions of strategic management will be provided. Lastly, the most suitable definition for this thesis will be selected and explained.

As already previously mentioned, the field of strategic management is interdisciplinary in its nature; therefore there is also a number of definitions of what strategic management actually is and what it represents. These definitions are used in accordance to the different viewpoints the authors pursue in the explanation of phenomena in strategic management. Therefore, the first objective will be to create a general overview of existing definitions and their contents and based on these definitions a definition of strategic management will be selected, which will then provide the basis for the following definition of a niche and niche strategy.

Most of the definitions of strategic management are defined within the context of the following parameters:[292]

- general development of the company,
- long-term company success,
- internal and external aspects of the company,
- creation of the opportunity to succeed, and
- a superordinate perspective upon which the decisions are based.

Based on these parameters is the following overview existing of strategic management definitions (see figure I-21).

[292] Cf. Hungenberg (2000), p. 4ff.

Economics	(a) The strategic management field is—positively—the scientific study of the plans that firms build and implement in order to achieve and maintain competitive advantage, and—normatively—the attempt to identify optimal plans for achieving and maintaining competitive advantages (b) A field aimed at understanding competitive heterogeneity (c) Strategic management is the interdisciplinary field that studies the behavior of companies and other market parties, in terms of their strategic behavior, the choices they make with regard to organizing their production, their interrelationships, and their competitive positioning. All of this is set against a thorough understanding of the broader environment in which companies have to operate
Sociology	(a) The study of firms' performance from a platform of tangible and intangible resources in an evolving environment that includes their market and value network (b) I think of the field relatively broadly. I would say that it encompasses the definition and implementation of an organizational course of action. Central to the determination of those actions is an understanding of the relationship between choices available to a manager and firm performance (which I would define far more broadly than profitability to include dimensions such as innovation and survival). Hence, most research in the field either concerns understanding the links between organizational actions (routines) and performance outcomes, or considers how one actually goes about changing these routines (c) The study of how organizations create value, including not only 'the plan' but also the organizational configuration that it is combined with
Marketing	(a) It is a field about what drives performance of certain businesses and which strategy works (b) I view the field of strategic management as eclectic, involving all the various business functions such as finance, marketing, supply chain, economics, psychology, statistics, etc. More specifically, it involves firm boundaries, market and competitive analysis, strategic positions and dynamics, and internal organization (c) The field looks at substantive and process issues such as strategy content, governance mechanisms, strategy choices, market driven strategy, choices of markets, advantage, value propositions, configuration, reacting to markets, and structure, Governance, CEO, leader, strategic choices
Management	(a) Developing an explanation of firm performance by understanding the roles of external and internal environments, positioning and managing within these environments and relating competencies and advantages to opportunities within external environments (b) Strategic management is the process of building capabilities that allow a firm to create value for customers, shareholders, and society while operating in competitive markets (c) The study of decisions and actions taken by top executives/TMTs for firms to be competitive in the marketplace

Figure I-21: Strategic management definitions.

(Source: Rajiv Nag (2007), p. 946).

Although these definitions of strategic management were summoned from authors in different fields, they show many generalities in the application of the same conceptual elements.[293]

On the basis of the contemporary work done in the search for an appropriate definition of strategic management, this thesis will use the definition developed by Nag/Hambrick/Chen in (2007). They define strategic management as:

"The field of strategic management deals with the major intended and emergent initiatives taken by general managers on behalf of owners, involving utilization of resources, to enhance the performance of firms in their external environments." (Rajiv Nag (2007), p. 944)

This definition is constructed of six components:[294]

- *Major intended and emergent initiatives*. This includes the strategy, operations, investments, diversification and others, which represent the planned activities, as well as learning and innovation as the more up and coming activities which take place in a firm.
- *Taken by general managers on behalf of owners*. This part deals with the key figures that are involved in the process of strategy research, such as the CEOs, top management, the boards as well as agents and owners.
- *Involving utilization of resources*. This addresses the resources and processes that the managers apply in their strategic initiatives. It includes both the internal resources and processes such as knowledge and capabilities as well as external ones, such as relations which connect the company with its environment.
- *To enhance the performance.* This component refers to the growth, performance and competitive advantage amongst others, which are some of the key objectives of strategic management.
- *Of firms.* This refers to the main object of analysis, which are the firms, companies, strategic business units and functional areas.
- *In their external environments.* This includes the immediate external environment of a company which includes its market, competitors and industry, as well as the broader external environment.

[293] These conceptual elements include: strategic initiatives, internal organization, managers and owners, resources, performance, firms and the environment. Cf. Rajiv Nag (2007), p. 947.

[294] Cf. Rajiv Nag (2007), p. 942f.

For the purpose of this thesis this definition covers all the relevant areas of strategic management. This concludes the first of the three definitions. Based on these definition, the niche and niche strategy will be defined in the following sub-chapters.

I.2.2 Definition of a niche

Following the definition of strategic management, the foundation has been laid down on which the definition of a niche can be built. There will be a synthesis of the entire review up until now in order to extract the essence of the niche and provide a clear and unambiguous definition of the niche for strategic management.

This sub chapter will be structured into two parts; the first part will look at the structure of the definition and what are its main components and similarly to the definition on strategic management the second part will review the current definitions before providing a working definition for strategic management.

(1) Main components of a niche

The first point will outline the main aspects of the niche which are relevant for this the purpose of providing a clear and unambiguous definition of a niche. Each of the aspects will be detailed and explained why it is relevant for the niche definition.

The niche has managed to keep some of its main characteristics through its development from ecology to business sciences. Similarly to the ecological definition, the niche in business sciences displays many of the same issues that have caused ambiguity within the ecological scientific community. There is the issue of what aspect of the niche is being observed; ecology dealt with the topic throughout the development of the niche in terms of whether the niche is defined through the geographical position of an animal in its community through the characteristics and attributes that the animal itself exhibits or through the resources which it requires for its survival.[295] Similarly, the niche in business sciences deals with three different points of view: the niche as a market constellation, as a strategic option of a company and as an unsatisfied consumer demand.[296] Therefore, it is vital to select the

[295] Cf. Grinnell (1928), p. 435; Elton (2001), p. 63f.; Hutchinson (1944), p. 20; Adler et al. (2007), p. 95.

[296] Cf. Cavalloni (1991); Stahr (1995); Rosenbaum (1999), p. 126; Porter (2004), p. 12ff; Barney (1991), p. 106; Iansiti/Levien (2004), p. 128; Trachsel (2007), p. 42ff; Danner (2002), p. 37ff.

appropriate definition of a niche for strategic management to avoid any conceptual obscurities in model building. The definition will focus on three key aspects:

(a) Competition. Similarly to the ecological thinking, where the competitive exclusion principle states that no two species can occupy the same ecological niche without one of the species becoming extinct, is the understanding of competition in strategic management.[297] The niche in strategic management is a part of the market which protects the company from the entry of new competitors. The creation of entry barriers results in a higher competitive intensity, which is the product of a limited ability of companies in the general market to gain access to the market niche.[298] As a result, niches have two distinct advantages: they appear unattractive for competition because of lower revenue expectations or because the competitors are unaware of this niche.[299] This leads to the conclusion that the objective of the niche is to protect the company against scale. The scope and duration of this protection depends on the market and industry structure and the competitive forces affecting them. The following characteristics can also be labeled under the term economies of concentration, where the company has a distinct advantage in a lesser resource and cost intensity than the mass market.[300]

(b) Market segmentation. Markets can be defined as economic venues of exchange, where demand and supply meet and the formation of prices happens.[301] Niches present an alternative to the mass market. They can be separated from the mass by segmentation into market areas which are different from the mass market (see figure I-22). Porter defines this segmentation as: [302]

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[297] Cf. Gause (2003), p. 19. Whereby the ecological niche is the overlapping of resources, which both species require in order to survive. This competition occurs when the resources become scarce and the species start competing for these scarce resources. Eventually the stronger species survive and eliminate its competitors from its ecological niche.

[298] Cf. Miller/Friesen (1978), p. 929. This occurs for two reasons; firstly, the market leaders do not invest heavily in niche market segments because of the higher level of difficulty to gaining market access and secondly, the product of services of market leaders are not competitive in these segments and therefore their presence only marginally raises the competitive intensity.

[299] Cf. Böckem (1993), p. 535; Cavalloni (1991), p. 26.

[300] Cf. Danner (2002), p.53.

[301] Cf. Demmler (1997), p. 36.

[302] Porter additionally mentions that the product or buyer differences which have no influence on the structure of competitive advantage can be important at the internal company

> "Differences in structural attractiveness and in requirements for competitive advantage among an industry's products and buyers create industry segments. Segments grow out of both differences in buyer behavior as well as differences in the economics of supplying different products or buyers." (Porter (2004), p. 234.)

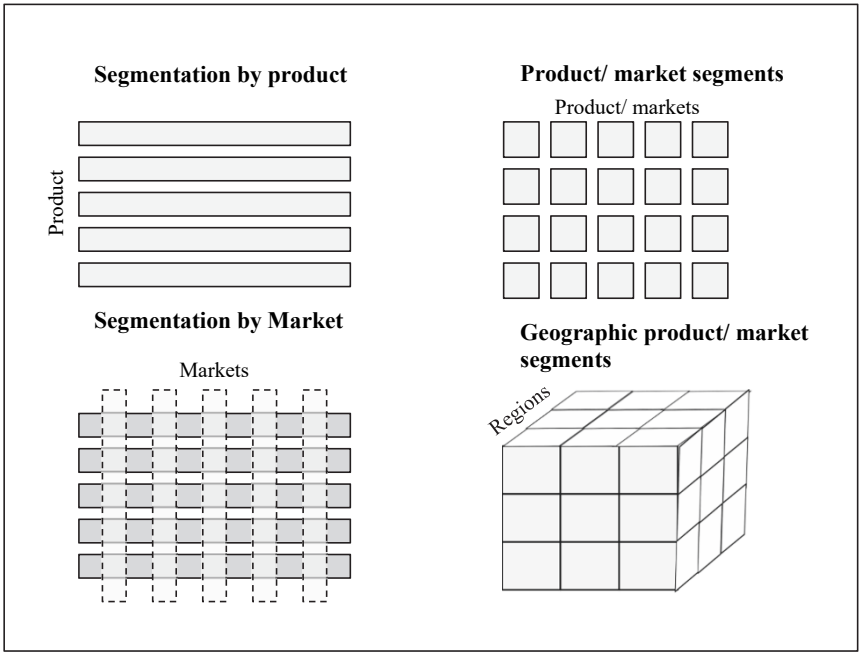

Figure I-22: The evolution of market segmentation

(Source: Garda (1981), p.18)

The most important thing is that the niche offers a more attractive market segment than the undifferentiated mass market in order to be considered covetable. This is achieved through the economies of specialization where the niche provider focuses on a customer segment, region or specific product.[303]

(c) *Demand satisfaction.* This is the last component of the niche. The demand in a niche can be summarized through the specialization of providers on

level but do not have to receive any additional attention with regards to the competitive strategy. Cf. Porter (2004), p. 234.

[303] Cf. Danner (2002), p.52.

> unfulfilled demand, better satisfying existing demand or by creating new demand altogether. This can be labeled as economies of specialization and through the individualization of demand leads to the creation of strategic barriers.[304]

Competition, market segmentation and demand satisfaction are the three main components which represent the basis for the definition of a niche in strategic management. This definition will be provided in the following point.

(2) Market niche definition

The definition of the market niche represents the second integral definition of this sub chapter. In order to develop the niche definition for this thesis, an overview of existing niche definitions will be provided. Based on the groundwork and definitions from strategic management and existing definitions a market niche definition will be defined and explained.

To show the diversity of the niche definition and its meaning there will be a short overview of the existing niche definitions in sciences (see figure I-23). As one can gather from the definitions in figure I-23, there are some reoccurring themes in several of these niche definitions which are described with the words such as “market”, “resources”, “specialization”, “competition”, and “relationship”. As already discussed in the previous point they will provide the cornerstone of the market niche definition in strategic management.

Based on these insights and those gained from the historical development of niches in sciences, the niche in strategic management can be defined as:

The market niche is a specialized market constellation that protects against scale, by satisfying unfulfilled demand, better satisfying existing demand or creating new demand altogether.

This definition consists of three parts:

- *Specialized market constellation*. Meaning that it is separated from the mass market and consequently displays unique characteristics, which are appealing to some consumers.
- *Protects against scale*. Meaning that the niche offers protection from other competitors of the mass market to companies that are within its borders. This

[304] Cf. Danner (2002), p.52.

protection is connected with the unique capabilities a company has to posses in order to thrive in the niche.

Natural sciences	"(…) the concept of the ultimate distributional unit, within which each species is held by its structural and instinctive limitation, these being subject to only slow modification down trough time." (Grinnell (1928), p. 435). "The term niche (…) is here defined as the sum of all environmental factors acting on the organism; the niche thus defined is a region of an n-dimensional hyper-space, comparable to the phase-space of statistical mechanics." (Hutchinson (1944), p. 20).
Sociology	"(…) the (realized) niche of a population is defined as that area in constraint space (the space whose dimensions are levels of resources, etc.) in which the population outcompetes all other local populations. The niche, then, consists of all those combinations of resource levels at which the population can survive and reproduce itself." ({Hannan/Freeman (1977), p. 948). The role of the niche in McPherson's model was in providing answers as to why only some people are potential members of an organization. It explains the importance of the niche for human organizations. (cf. McPherson (1983), p. 520f.)
Business sciences	"(…) are characterized through market services, which do not satisfy the differentiated consumer need in up to a satisfactory degree." (Cavalloni (1991), p. 16) "(…) an operating strategy that specializes capabilities, to differentiate a business within a ecosystem domain. The fundamental advantage of a niche player (…) is specialization. Niche players specialize by leveraging the services provided by the keystone in their ecosystem and by concentrating on the acquisition of businesses and technical capabilities that directly support their niche strategy." (Iansiti (2004), p. 128) According to Danner a niche is defined as a profitable market segment, which is created, when a producer in a segmented market, specializes on certain consumers, products or regions, and satisfies the demand for the first time or more precisely. (Cf. Danner (2002), p. 55.)

Figure I-23: Niche definitions in sciences

- *Satisfies unfulfilled demand, better caters to existing demand or creates new demand altogether*. Meaning that a company that is active in a niche is capable of better understanding the existing or unfulfilled needs of demand than its competitors. Additionally, these companies are capable of creating a new need for which there was previously no demand.

Based on this definition of a market niche and the definition of strategic management, the final definition of the first chapter will add the strategic component to this definition to come full circle and complete the first part of the thesis.

I.2.2 Definition of a niche strategy

The conclusion of the chapter I.2 will be a synthesis between the previous two definitions provided in sub chapters I.2.1 and I.2.2 in order to complete the definition framework for the strategic niche management theory. Before moving to the core of the sub-chapter, there will firstly be a short explanation of the meaning and content of strategy. Following this definition, the sub-chapter will be, similarly to the previous chapters, divided into two parts: the analysis of the main components of a niche strategy and the definition of the niche strategy.

Strategy plays a key role in the survival and growth of a company in a fast-paced and changing environment.[305] In the long-term, only those companies which have a clearly defined strategy and are able to implement this strategy in an efficient manner will be able to survive, grow, and develop. It therefore presents a framework, in which decisions are made and represents the type and direction the company will have in the future. Strategy answers the question of what and for what reason the company will exist and look like in the future. The implementation of the strategy on the other hand answers the question of how the company will realize its future vision. As a result, strategy states in which areas and for what reason a company will be active in.[306]

With a better understanding of strategy, the focus can now turn to the components that enable a company to successfully implement a niche strategy.

(1) Main components of a niche strategy

Before coming to the definition of a niche strategy an analysis of its main components has to be completed. This will assure the definition will include the relevant components along with the findings from the previous sub chapters.

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[305] The word strategy comes from the Greek word „Strategos“ which described the decisions made by military leaders. Strategy made its way to the business sciences, through its introduction in the economic game theory, where strategy was described as the planning of a certain combination of actions. Each of these actions is planned in on the basis of dependence between own actions and the actions taken by a third party, which would potentially influence own actions. Cf. Hinterhuber (2007), p. 55.

[306] Cf. Hinterhuber (1984), p. 23f. With the strategy, the future position of a company in its environment is determined through the ability of a company to: create products or services to satisfy the demand of certain consumer groups or markets, ensure appropriate returns for the stakeholders, purchase the necessary resources from its suppliers at acceptable conditions for both parties and to achieve a productivity level, which ensures a increase in the profit potential. Cf. Hinterhuber (1984), p. 24f.

As previously indicated in sub-chapter I.1.3 on the topic of the niche in strategic management, there are three key components of the niche strategy: *market, resources* and *network relationships*. In the following each of these components will be highlighted in order to arrive at a definition of a niche strategy for strategic management.

- *Market*. Market was already a subject topic when analyzing the main components of a niche.[307] The market-based view places the focus on the outside-in-perspective and the strategies focus on the three different types of strategies concerning the market: product, consumer (or consumer demand) and geographical region. A company is able to achieve a competitive advantage by better satisfying or understanding market needs in one of these three segments.
- *Resources*. Resources change the perspective from the market and turn it onto the company itself. Although this changes the point of view it has to be considered complimentary to the market based view, as only a thorough understanding of the market can enable a company to configure its resources in order to meet the needs of the market. This resource configuration has to be unique, in the sense that competitors cannot exploit the same capabilities in order for a company to achieve a competitive advantage.[308]
- *Network relationships.* The last component of a niche strategy focuses on the company's relationships to its environment. A company is able to achieve this through specialization and by leveraging the capabilities of the other companies in its network through their mutual relationships.[309]

On the basis of these components and the understanding of strategy, the last step will be to define a niche strategy for strategic management.

(2) Niche strategy definition

With the inclusion of findings from the previous two definitions and the literature review on the niche topic, the first part can be concluded with a definition of a niche

[307] The difference between the market from the niche and the niche strategy standpoint is in the fact that the niche focuses on the object or the topic of research, as in this case the market, whilst the niche strategy emphasizes the "why" and "how" to satisfy a certain market or industry. Cf. Trachsel (2007), p. 57.
[308] Cf. Barney (1991), p. 106.
[309] Cf. Iansiti/Levien (2004), p. 128.

strategy for strategic management. This definition will firstly be formulated, before being broken down into its constituent elements. The niche strategy in strategic management can be defined as:

A competitive strategy that determines where the company will compete and how it will utilize its resources and network relationships, in order to achieve a competitive advantage in its niche.

The main components of this definition can be broken down as follows:

- *Strategic management*. As in the basic idea of strategic management as previously defined. This can be observed in the objectives of strategic management to achieve an enhanced performance of the firm in its external environment; with the utilization of resources. This is the result of actions taken by general management on behalf of their owners.[310]
- *Strategy*. The definition incorporates the basic idea of a company's strategy in determining where to compete and how to compete. This also includes the differentiation between the corporate and business unit strategy. The corporate level strategy is focused on the market-based view in determining where the company should compete and the business unit level strategy, with how the company can achieve its advantage in the markets where it competes.
- *Market Niche*. It is based on the understanding of a market niche as a specialized market constellation, which protects a company against scale by satisfying unfulfilled demand and better catering to existing demand or creating new demand altogether.
- *Unique capabilities for niche creation*. Finally, the unique capabilities refer to the company's ability to create niches with a market, resource, and relational approach.

This definition concludes the first part of the thesis. Based on the insights gained during the overview and with the definitions, the objective of the second part will be to find a suitable paradigm in strategic management, which will be capable of serving as a framework for the construction of a niche model.

[310] Cf. Rajiv Nag (2007), p. 944.

Part II: Theoretical pillar of the niche model framework

The second part of the thesis will focus on the dynamic capabilities paradigm as a framework upon which the niche model will be constructed. The second part will be divided into two theme blocks; the first one dealing with the introduction into dynamic capabilities (*II.1 The historical development of dynamic capabilities*) and the second one on the role of the dynamic capabilities in strategic management (*II.2 Dynamic capabilities and strategic management*).

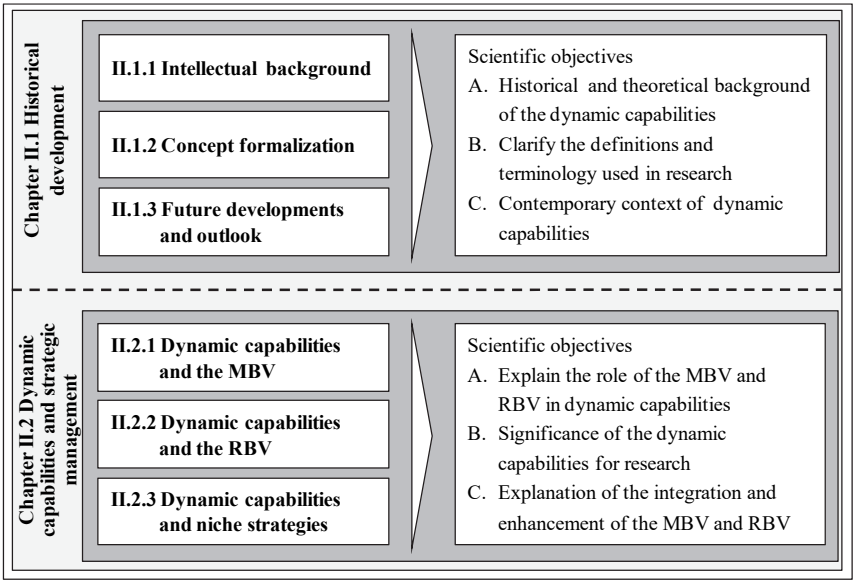

Figure II-1: Structure of Part II.

The first part will provide a general overview of the intellectual history that led to the creation of dynamic capabilities and will answer the question of why dynamic capabilities came to exist. Furthermore, it will explain the formalization of the concept and provide the definition of its contemporary meaning and role. The first part will be rounded by the analysis of development of dynamic capabilities since the concept formalization and the future outlook of the scientific field.

The second part will build on the knowledge gained in the first part, by focusing on the relevant issues within dynamic capabilities, which will provide the framework for the niche model. Therefore, the role of the market-based and resource-based views will be defined within the framework of dynamic capabilities

G. Ocvirk, *Strategic Management of Market Niches*, Schriften zur Unternehmensentwicklung, https://doi.org/10.1007/978-3-658-20364-1_3

and how each model contributed to the development of dynamic capabilities. Additionally, the integrative perspective of the MBV and RBV in the context of dynamic capabilities will be applied to the research on market niches which has been done in the first part of the thesis. To round out the second part, the integrative perspective and enhancement of the MBV and RBV within the scope of dynamic capabilities will be defined. This will provide the theoretical framework upon which the niche theory will be constructed.

II.1 The historical development of dynamic capabilities

Similarly to the literature review in the first part the historical development will provide a basic understanding of the dynamic capabilities paradigm and its development. After a general overview of its development, the review will be upgraded with a detailed analysis of the paradigm in strategic management. The review will consist of three sub-chapters: *II.1.1 The beginnings of dynamic capabilities*, *II.1.2 Formalization, definition and critique of the dynamic capabilities paradigm, II.1.3 Future developments and outlook in dynamic capabilities*.

II.1.1 The beginnings of dynamic capabilities

The following sub-chapter will explain what the cause and intellectual development was that led to the creation of dynamic capabilities. The work of authors such as Schumpeter, Penrose, Nelson and Winter, Prahalad and D'Aveni which represents the basis for the development of Dynamic capabilities will be examined and put into a modern context. The objective will be to identify the relevance of this research for the understanding and development of dynamic capabilities and this thesis.

The origins of dynamic capabilities can be traced back to the works of Joseph Schumpeter (1934) in "The theory of economic development", and (1942) "Capitalism, Socialism and Democracy".[311] Schumpeter placed entrepreneurship at the

[311] See Schumpeter (2007) and Schumpeter (1994). Although Schumpeter left no definitive theoretical system to his students, his view of the world is most clearly revealed in these two bodies of literature. His work had been shaped by the erratic growth processes in the period of economic bloom in Germany and Austria, leading up to the First World War and the vast industrial expansion in Europe at the break of the 19th century. This

center of the process, which through the development of innovations can lead to changes in how a certain industry or economy functions.[312] These innovations are usually of radical nature, which are the result of the process of creative destruction, rather than of a static equilibrium.[313] This process of creative destruction can be defined as:

> "The opening up of new markets, foreign or domestic and the organizational development (…) illustrate the same process of industrial mutation (…) that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one." (Schumpeter (1994), p. 83)

These revolutions are not constant in their nature but rather occur in a specific time period, which is followed by a period which is relatively calm, before the next revolution.[314] Besides the results and effects of these creative destructions, Schumpeter also places a focus on the reasons behind these occurrences. He describes these reasons as:

> "To produce means to combine materials and forces within our reach (…). To produce other things or the same things by a different method means to combine these materials and forces differently. In so far as the "new combination" may in time grow out of the old by continuous adjustment in small steps, there is certainly change possibly growth, but neither a new phenomenon nor development in our sense. (…). Development in our sense is then defined by carrying out new combinations." (Schumpeter (2007), p. 65f.)

These reasons were the consequence of the ability to recognize the value of the elementary parts of various systems and realizing that they can be combined in new

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period has created never before seen levels of economic growth in production, consumption, exchange and the institutional setup of the economy. Schumpeter tried to put the role of innovations, entrepreneurship and constant changes at all levels of the economy into a conceptual context. Cf. Witt (2002), p. 7.

[312] Cf. Galunic/Rodan (1998), p. 1193.

[313] Schumpeter sees capitalism as an evolutionary process. He argues that capitalism as a method of economic change cannot be stationary. This is reinforced by the notion that the economic life happens in social and natural environments, which constantly change and through this change alter the data of economic events. The triggers of this change can be found in new consumer goods, new production or logistic procedures, new markets, and new forms of industrial organization, which are the consequence of the capitalist enterprise. Cf. Schumpeter (1994), p. 82f.

[314] Cf. Schumpeter (1994), p. 83.

constitutions. This implied that innovation is in large part based on the new combinations of existing conceptual and physical materials. As a result, these innovations are generated from existing systems, through a new and profit making way of the existing resources, which constitute the system.[315] Schumpeter's understanding of creative destruction and innovation can be translated into the resource-based view as new combinations of resources, which lead to the main objective of a company, which is to create a sustainable competitive advantage.[316]

Following Schumpeter is Penrose's (1959) *"The Theory of the Growth of the Firm"*, in which she focuses on the neglected part of the theory of the firm – the internal resources of a company which are a key determinant of company growth. Penrose claims that the growth of a firm is driven by the adaptability and variety of the resources of the company.[317] She sees the company's distinctive capability or competence as a function of resources, which a company has at any given point in time. These combinations of resources give a company its unique character. The competitive advantage does not stem from the resource quality of a firm but rather from the fact that a company is able to achieve better use of its resources than its competitors.[318]

Referring to the dynamic capabilities, Penrose's understanding can be translated into modern terms, with the resources representing stocks and the capabilities representing flows. Dynamic capabilities represent a highly complex process, which is created over a period of time and is contingent on the utilization of resources. These highly complex capabilities serve as the main components for the firm's architecture of strategic complexity.[319] This view of organizational-specific resources in the business science literature has sparked a series of theories of the firm, whose framework is based on resources and capabilities.[320]

The next key contribution to the development of dynamic capabilities was made by Nelson/Winter (1982), with *"An evolutionary theory of economic*

[315] Cf. Galunic/Rodan (1998), p. 1194.
[316] Cf. Mahoney/Pandian (1992), p. 369.
[317] Penrose's main objective was to enhance the existing view the "theory of the firm", where she did not offer a contradictory approach but rather a supplementary approach. Cf. Volpe/Biferali (2008), p. 119.
[318] Cf. Penrose (1996), p. 54.
[319] Cf. Mahoney/Pandian (1992), p. 366.
[320] Cf. Nooteboom (2006), p. 5.

change".[321] They saw competition from a process standpoint, where it is not a structural state, but rather an active process. As a result, competition can be observed as a process which determines winners and losers, which on the other hand relates to a fundamental question in strategy, why some choices lead to a better performance than others.[322] Through this process approach, Nelson and Winter managed to redefine the standard operating procedures as routines and managed to show how these routines can be viewed as the DNA of the company and how this influences the company's ability to adapt to its environment.[323]

Routines are key for the determination of not only how companies currently operate but also how they figure to operate in the future. They make a distinction between static and dynamic routines.[324] Static routines represent the replication of tasks that were already performed and even though they are relatively stable, some improvements and fluctuations are present with repetition. Dynamic routines on the other hand look for new products, processes and business innovations. Additionally, these routines are classified into three types:

- the short-term procedures for the determination of capital stock usage,
- the modification of capital stock as a response to environmental stimulations and
- the routines, which modify certain aspects of operating characteristics.[325]

Their foundations allowed the subsequent scholars to research strategy in a dynamic setting.

In 1990, C.K. Prahalad a professor at the University of Michigan and Gary Hamel a lecturer at the London Business School published an article in the Harvard Business review titled *"The Core Competence of the Corporation"*. They coined the term core competences and identified these core competences as a source of competitive advantage. The authors understanding of competence is based on the

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[321] Nelson and Winter's evolutionary theory is based on the principles of the evolutional theory in biology. However, these principles are not followed strictly, but rather adapted for the development of business science theory. Their main interest of focus lies in the evolutionary theory, as the dynamic process, which patterns the behavior of companies and determines their market outcomes over time. Cf. Nelson/Winter (1994), p. 18.

[322] Cf. Lee et al. (2002), p. 729.

[323] Cf. Pierce/Teece (2005), p. 4.

[324] Routines can be defined as regular and predictable behavioral patterns of companies. These routines represent solutions to existing specific problems in group behavior and are only partly identified, which is due to their partly transparent nature. Cf. Nelson/Winter (1994), p. 14.

[325] Cf. Pierce/Teece (2005), p. 16ff.

differentiation between competitiveness in the sort-term and competitiveness in the long-term. Short-term competitiveness is based on the price/performance characteristics of the current products or services, whereas the key determinant to the long-term competitiveness is the company's ability to produce faster and at lower costs than the competitors. Still Prahalad and Hamel state that the real source of competitive advantage lies in the management capabilities to unify the technologies and production know-how of the entire corporation into competences, which enable individual business units to adapt quickly to the changing conditions.[326]

Based on this understanding of competitiveness, they define the core competencies as:

> "(…) the collective learning in the organization, especially how to coordinate diverse production skills and integrate multiple streams of technologies. (…). If core competence is about harmonizing streams of technology, it is also about the organization of work and delivery of value. (…). Core competence is communication, involvement and deep commitment to working across organizational boundaries. It involves many levels of people and all functions. (…). Competence does not diminish with use." (Prahalad/Hamel (1990), p. 82)

Their research provided three distinctive insights for the development of dynamic capabilities:

- large corporations exhibit many core competences,
- they represent the dynamics of the competitive strength of a company, which lead to a series of innovative and enhanced products, over a period of time, and
- they can be located in the areas of technology, where the human has to conform to the rules of technology.[327]

The last in the series of key publications that contributed to the intellectual history of dynamic capabilities was D'Aveni's (1994) *"Hypercompetition: Managing the Dynamics of Strategic Maneuvering"*.[328] The idea behind the work of D'Aveni is based on the developments in the American corporate landscape, where the industrial giants such as General Motors and IBM were quickly losing their competitive

[326] Cf. Prahalad/Hamel (1990), p. 81.
[327] Cf. Dosi et al. (2008), p. 1168.
[328] Hypercompetition is marked by strong and quick maneuvers of competitors which are triggered by the need to upgrade existing or build new advantages in order to nullify the advantages achieved by the competitors. Cf. D'Aveni (1994), p. 217f.

advantage. This was the result of the volatility, dynamics, heterogeneity and aggressiveness of the environment. As a result of this new hypercompetitive environment, companies had to rethink their strategic direction.[329]

The fast paced hypercompetitive environment leads to technological innovations, attractive markets, innovative global competitors, which seemingly come and go over night. The traditional strategic competitive advantages such as market entry barriers, cost leadership, differentiation are not sufficient anymore according to D'Aveni.[330]

To describe this situation the author uses an example from the beverage industry, where Coca-Cola and Pepsi have had a competitive struggle for decades, with each company achieving only short-term advantages in the development of new products, technical and operational innovations, and advertising. This has led to the conclusion that even though some of these moves and counter moves have indeed led to a competitive advantage, this advantage was never of lasting nature, but rather a temporary advantage, before the competitors catch up.[331]

The work of D'Aveni has provided two key realizations for the development of dynamic capabilities. Firstly, that the competitive advantage of a company is of temporary nature meaning that in the high paced volatile environment the competitive advantage is only temporary. Secondly, this hypercompetition forces companies to constantly rethink and adapt its strategic direction in order to remain competitive.

The work of authors described in this chapter has laid the theoretical foundation for the development of dynamic capabilities. Their research touched on the following key points which became elementary for dynamic capabilities:

- creation of sustainable competitive advantage,
- development of complex processes which are based on the utilization of resources,
- introduction of dynamic routines which constantly look for new products, processes and business innovations,
- development of core competencies which allow quick adaptation to change,
- the limited duration of competitive advantage and

[329] The topic dealt with the effects of a dynamic environment on the market position, which strategies are successful in such conditions, and how these strategies can be developed. Cf. D'Aveni/Gunther (2007) , p. 84.
[330] Cf. D'Aveni/Gunther (2007) , p. 85.
[331] Cf. Eisenhardt/Martin (2000), p. 1117f.

- constant adaptation in the strategic direction to ensure the competitiveness of the company.

After grasping the basic ideas that have led to the development of the dynamic capabilities, it is now time to focus on the authors and research that has formalized the dynamic capabilities as a paradigm within strategic management.

II.1.2 Formalization, definition and critique of the dynamic capabilities paradigm

The objective of this sub-chapter is to show the formalization and provide a definition for the dynamic capabilities paradigm and based on this definition and formalization critically analyze the paradigm. The first part will show how the intellectual history, which was described through the works of Schumpeter (1934, 1942), Penrose (1959), Nelson and Winter (1982), Prahalad and Hamel (1990), and D'Aveni (1994) came together to form the dynamic capabilities. The second part will focus more on the methodological shortcomings and issues with dynamic capabilities.

An elementary question of strategic management of how companies are able to gain and sustain competitive advantage is at the core of the research in dynamic capabilities. The roots of the dynamic capabilities lie in the key research objective of the resource-based view of the firm, which deals with the configuration of company resources, with the aim of achieving a sustainable competitive advantage. The dynamic capabilities goes beyond the resource-based view by expanding it through:

- the identification of the company specific characteristic dimensions that can lead to competitive advantage and
- the company's ability to construct, trigger and protect its unique configuration of core competences and resources.[332]

Through the change of the resource basis, dynamic capabilities are able to develop new strategic alternatives or development paths for a company.[333]

The key objectives and purpose of the dynamic capabilities explained above shows that the dynamic capabilities are constructed from two key elements: resources and capabilities. In addition to these two building blocks, there should be a

[332] Cf. Teece et al. (1997), p. 510.
[333] Cf. Helfat (1997), p. 339f.

further distinction between the understanding of capabilities and dynamic capabilities.[334]

The understanding of resources for the purpose of this thesis was already defined in sub-chapter "I.1.3 The role of niches in business sciences". This understanding is based on the definition of Daft (1983), later recapitalized by Barney (1991), where the firm's resources includes all assets, capabilities, organizational processes, firm attributes, information and knowledge among others that through their unique combination contribute to the improvement of a company's efficiency and effectiveness. These resources can be classified into three different categories of resources: *physical capital resources*, *human capital resources* and *organizational capital resources*.[335]

On the other hand, authors generally distinguish between three different categories of capabilities, which can be pooled into a greater set of tangible and intangible company resources. The first type of capabilities represent the basic functional activities of a company. The second type refers to the dynamic improvements of the company's activities. The final type refers to the transcendental strategic insights of a company, which enable the identification of the quintessential importance of resources in order to develop a competitive advantage prior to its competitors.[336] Thus a capability as understood in this thesis is defined as:

> "(…)high-level routine (or collection of routines) that, together with its implementing input flows, confers upon an organization's management a set of decision options for producing significant outputs of a particular type." (Winter (2003), p. 991)

Based on this is the understanding of resources and capabilities and the foundations provided by Leonard-Barton (1992) on the core capabilities and core rigidities.[337] The term dynamic capabilities has been formalized by Teece, Pisano and Shuen (1997), who are regarded as the founders of the dynamic capabilities. They defined the dynamic capabilities as:

> "(…) the firm's ability to integrate, build and reconfigure internal and external competences to address rapidly changing environments. Dynamic capabilities

[334] Cf. Winter (2003), p. 991.
[335] Cf. Daft (1983), p. 87; Barney (1991), p. 101. Although the processes have been detached from the resource-based view for the purpose of the identification of niches based on operational improvements, the process-based view represents a sub-branch of the resource-based view and will be therefore included in the company's resources.
[336] Cf. Collis (1994), p. 145.
[337] See Leonard-Barton (1992).

> thus reflect an organization's ability to achieve new and innovative forms of competitive advantage given path dependencies and market positions." (Teece et al. (1997), p. 516)

This definition provided a solid basis, though it did not answer the question of how these abilities are established, which attributes they have, how they can be identified and where they come from.[338]

Similarly to the definition of a niche in strategic management, there is also no clear definition of dynamic capabilities. The ambiguity stems from two different sources:

- the difference in understanding and meaning of resources and capabilities and
- the unification of several streams within strategic management (see figure II-2).

Source	Definition
Teece/Pisano (1994), p. 541	"Dynamic capabilities are the subset of the competences/capabilities which allow the firm to create new products and processes, and respond to changing market circumstances."
Collis (1994), p. 148	"The capability that wins tomorrow is the capability to develop the capability to develop the capability that innovates faster (or better), and so on."
Eisenhardt and Martin (2000), p. 1107	"The firm's processes that use resources-specifically the processes to integrate, reconfigure, gain and release resources-to match and even create market change. Dynamic capabilities thus are the organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die."
Griffith and Harvey (2001), p. 597	"(…) the development of global dynamic capabilities, which is the creation of difficult-to-imitate combinations of resources on a global basis that provide a firm a competitive advantage (…)."

[338] Cf. Easterby-Smith et al. (2009), p. 2.

Source	Definition
Lee et al (2002), p. 734	"(…) dynamic capabilities are conceived as a source of sustainable advantage in Schumpeterian regimes of rapid change, where the window of profit-making opportunities by selling existing products is limited."
Zahara and George (2002), p. 185	"These capabilities enable the firm to reconfigure its resource base and adapt to changing market conditions in order to achieve a competitive advantage."
Zollo and Winter (2002) p. 340	"A dynamic capability is a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness."
Winter (2003), p. 991	"(…) one can define dynamic capabilities as those that operate to extend, modify or create ordinary capabilities."

Figure II-2: Dynamic capabilities definitions

As can be gathered from the definitions above, there has been a number of different interpretations, which were developed on the basis of the definition of Teece et al (1997). For example, the initial definition includes only moderately dynamic markets, whereas the definition from Eisenhardt and Martin (2000), already talk about dynamic capabilities in high-velocity markets as opposed to moderately dynamic ones.[339] Similarly, as already observed with the definition of a niche in strategic management, the different meanings of dynamic capabilities are the consequences of different researchers adopting different methods to explain different phenomena.[340]

Three general points of criticism can be made on the topic of dynamic capabilities. One of them was already hinted in the large diversity of definitions. These points of critique regarding the dynamic capabilities are:

[339] Eisenhardt and Martin (2000) claim that the dynamic capabilities in high-velocity markets are simple, as opposed to the moderately dynamic markets, where they are complicated. Cf. Eisenhardt/Martin (2000), p. 1111.

[340] Cf. Green et al. (2008), p. 66.

- *Inconsistencies and overlapping definitions*. These inconsistencies are the result of the conclusions drawn by researchers, who derive the existence of dynamic capabilities from successful organizational outcomes such as profitability and growth. Through such a conceptualization, it is not possible to separate the existence of dynamic capabilities from the implications that they have. Part of this problem stems from the equation of dynamic capabilities with environmental conditions.[341]
- *Tautology*. The repetition of meaning, without saying anything new can be observed with the argument, that an organization is more successful than other organization, because it has better capabilities.[342] This is due to the fact that dynamic capabilities originate from the resource-based view, which has often been the subject of criticism due to its tautological nature.[343]
- *Retrospective approach*. This is due to the fact that the dynamic capabilities are identified ex post on the basis of the behavior displayed by the company in the past.[344] This leads to the conclusion that even certain dynamic capabilities are identified as being successful. Their success in the past does not guarantee success in the future.

An additional remark can be made to the points of criticism above, in that the validity of this critique depends on the selected interpretation of the dynamic capabilities. The criteria upon which the criticism is based will always depend on the viewpoint that can be contributed to the heterogeneity of the understanding of dynamic capabilities, where there is still no consensus definition.[345]

In summary, the formalization and definition of dynamic capabilities holds many similarities to the niche strategy, as its understanding and meaning are not clearly conceptualized as they are not with the niche. This leads to different interpretations and consequently different points of view depending on the focus of research. Based on this formalization, definition and critique, there will be an overview of future developments in dynamic capabilities.

[341] Cf. Shaker A. Zahra (2006), p. 923f.
[342] Cf. Zollo/Winter (2002), p. 340.
[343] Cf. Green et al. (2008), p. 66.
[344] Cf. Shaker A. Zahra (2006), p. 923.
[345] Cf. Green et al. (2008), p. 66.

II.1.3 Future developments and outlook in dynamic capabilities

In the final sub-chapter of the first part focus will be on future developments and research agenda in dynamic capabilities. After an introduction into the basic conception, the formalization and definition, the objective is to give a future outlook of the field in order to round up the understanding of dynamic capabilities.

Most of the research since the formalization of dynamic capabilities at the beginning of the 21st century has been concentrated on two issues which have remained since the inauguration of the concept. The first one is concerned with the origin and the definition of dynamic capabilities and the second one with the effects and results of these capabilities.[346] This is due to the fact that dynamic capabilities still have some methodological credibility issues, therefore, the future outlook will focus on the two bodies of work by Teece (2007) and Helfat et al (2007), which tried to overcome this issue.[347]

Helfat et al (2007), in their work *"Dynamic capabilities: Understanding strategic change in organizations"* tried to develop a new definition of dynamic capabilities, which would be free of any conceptual inconsistencies and overlapping. According to them the dynamic capabilities can be defined as *"(...) the capability of an organization to purposefully create, extend or modify its resource base (...)." (Helfat et al. (2007), p. 4)*. This definition has two important implications; on the one hand it builds on the original definition of Teece, Pisano and Shuen (1997), where the dynamic capabilities enable a company to reconfigure its internal and external competences in order to respond to environmental change.[348] The second implication is that this definition also includes the "broader" definition of dynamic capabilities from Eisenhardt and Martin (2000), where it represents organizational and strategic routines, which lead to disruptive change in the market.[349]

The advantage this definition possesses is that on the one hand it is specific enough to be of significance and on the other hand broad enough to have room for additional research on the nature and origin of dynamic capabilities. This definition tells us that whatever the result of these dynamic capabilities may be, they are the result of the configuration of the company's resource base, which includes tangible and intangible assets, as well as capabilities.[350]

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[346] Cf. Easterby-Smith et al. (2009), p. 2.
[347] See Teece (2007) and Helfat et al. (2007).
[348] Cf. Teece et al. (1997), p. 516.
[349] Cf. Eisenhardt/Martin (2000), p. 1107.
[350] Cf. Easterby-Smith et al. (2009), p. 3.

In his work Teece (2007) states "Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance", in which he defends the stance that dynamic capabilities are the source of the enterprise level competitive advantage in companies, which operate in "high-velocity" markets (meaning rapid technological change).[351] Additionally, he separates dynamic capabilities into the following capacities:

> "(…) (1) to sense and shape opportunities and threats, (2) to seize opportunities, and (3) to maintain competitiveness through enhancing, combining, protecting, and, when necessary, reconfiguring the business enterprise's intangible and tangible assets." (Teece (2007), p. 1319)

These capacities are of vital importance for the company in order to sustain superior performance in a dynamic environment. The novelty of the work of Teece (2007) can be observed in comparison with the prior theoretical models (see figure II-3).

[351] Cf. Teece (2007), p. 1341. This was based on his original definition of dynamic capabilities, according to Teece et al (1997), where these dynamic capabilities represent the source, which enables the achievement of new forms of competitive advantage. Teece et al. (1997), p. 515.

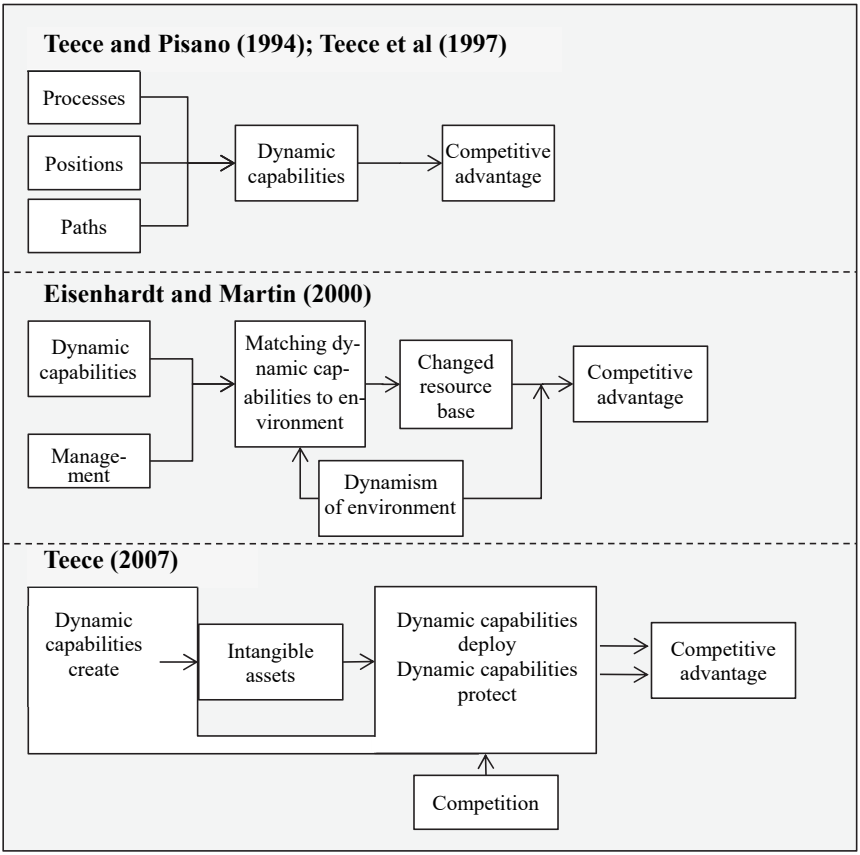

Figure II-3: The logic behind dynamic capabilities.
(Source: Arend/Bromiley (2009), p. 79)

As can be observed in *"figure II-1"*, dynamic capabilities are based on the processes of the firm, which enable it to alter its status quo. This change in position affects the company's performance and competitive advantage. Teece (2007) expands on the previous work of Teece et al (1997), by adding additional components of dynamic capabilities, which enable the firm the deployment and protection of com-

petitive advantage besides the creation. These new components lead to new processes, positions and paths which in term affect company performance, influencing its growth profits and competitive advantage.[352]

Even though the authors in the last decade have invested a lot of research and effort into the conceptual clarity of dynamic capabilities, some of the initial problems still remain. Therefore, future research on the concept will have to primarily focus on:[353]

- Methodological clarification of the nature of dynamic capabilities. This is mainly due to the dynamic nature of capabilities. There is still a need for a differentiation between operational and higher level capabilities and the capabilities which require a sequential learning process and those which have a disruptive innovational effect.
- Research has delivered results which are more focused on the link between functional capabilities and dynamic capabilities.
- Dynamic capabilities have to be tested on other industries and not only on industries which are "dynamic" in their nature.
- The relationship between dynamic capabilities and their utilization of resources and implementation of new processes.

Based on the previous three sub-chapters, a general understanding of dynamic capabilities has been established and some parallels have been drawn with the niche and niche strategies. The analysis of the roots, current definitions and critique and future directions, will provide a solid basis for establishing a link between dynamic capabilities and the objectives of this thesis. Therefore the second part of this chapter will specifically focus on the role of dynamic capabilities in strategic management.

[352] Cf. Helfat/Peteraf (2009), p. 97. Figure II-1, has a significant effect on the research on dynamic capabilities. As can be observed there are a number of relations between categories which impact the ability of the researchers to differentiate among the different models. As a consequence, authors may give different labels to different constructions depending on the location of the dynamic capabilities. Arend/Bromiley (2009), p. 76.

[353] Cf. Easterby-Smith et al. (2009), p. 7.

II.2 Dynamic capabilities and strategic management

After gaining a first impression of dynamic capabilities, the focus of the second chapter will be on the establishment of a link between the objectives of the thesis and dynamic capabilities. In the second chapter there are three guiding objectives, first is to explain the role of the MBV and RBV in dynamic capabilities, second is to show the significance of dynamic capabilities for the purpose of this thesis, and third is to explain the integration and enhancement of the MBV and RBV in dynamic capabilities.

The main reason for the inclusion of dynamic capabilities is based on its role as an integrative concept, which brings together the characteristics of the market-based view and the resource-based view, with the main focus lying in the domain of the latter (see figure II-4). This integrative perspective will be placed in the context of market niches, which was developed in the first part of the thesis to provide a paradigm upon which the market niche model will be based upon in the third part of the thesis.

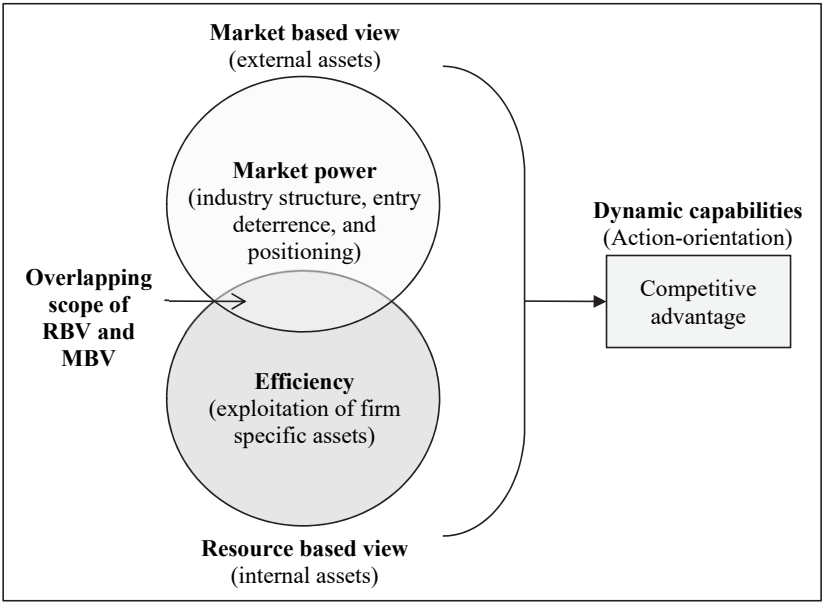

Figure II-4: Integrative nature of dynamic capabilities.
(Source: on the basis of Griffith/Harvey (2001), p. 599)

The figure II-5 below summarizes the main points and characteristics of efficiency and market power.

Efficiency	**Market power**
Markets are dynamic	Markets are static
Competition is a process	Competition is a state
Sustained above normal returns are not dependent upon barriers to entry	Sustained above normal returns are dependent upon barriers to entry
Analysis of firm resources	Analysis of industry structure
longitudinal analysis	Cross sectional analysis

Figure II-5: Efficiency vs. Market power.
Source: McWilliams/Smart (1993), p. 70.

The concept of market power, which is based on the S-C-P paradigm, sees markets as static and the following competition as a state. The sustained competitive advantage according to this view depends on the creation of entry barriers, which makes the analysis of industry structure an indispensible element for strategy research and formulation. A cross sectional analysis is applied for this analysis, which is an observational analysis, which takes place at a single point in time. From the efficiency point of view markets are viewed as dynamic, where the competition is viewed as an ongoing process. This means that the economic conditions which influence the given industry are never in equilibrium. As opposed to market power, the entry barriers do not represent a perquisite for the achievement of a sustainable competitive advantage. Competitive advantage according to the efficiency paradigm can be achieved in a competitive environment. Therefore the focus is on the demand side and firm resources. For the analysis of efficiency, the longitudinal analysis is applied, which analyzes a data series over a period of time and is therefore best suitable for dynamic environments.[354]

Dynamic capabilities represent an overlapping scope between the MBV and the RBV. Additionally, they enhance both the RBV and the MBV with an action oriented dynamic component. On the basis of this understanding, dynamic capabilities for the purpose of this thesis can be defined as:

[354] Cf. McWilliams/Smart (1993), p. 70f.

Dynamic capability is the ability to integrate, build and reconfigure internal and external competences, which lead to the difficult-to-imitate capabilities that provide a company a competitive advantage.[355]

This definition and its constituting parts will be explained in detail in the other sub-chapters, which are indicated in the objectives of the second chapter: (II.2.1) the role of the market-based view in dynamic capabilities, (II.2.2) the role of the resource-based view in dynamic capabilities (II.2.3) and the integrating role of the dynamic perspective in the accumulation of competitive advantage.

II.2.1 Market-based view and its connection with dynamic capabilities

Although the MBV has already been shortly introduced in sub-chapter "I.1.3 The role of niches in business sciences", this review will not provide another synthesis but it will rather deal with the role of the MBV within dynamic capabilities. The examination of the MBV will start with the criticism of the paradigm by Teece (2007), which is in some aspects unjustified and oversimplified. Following this critique will be the analysis of the incommensurability between the MBV and the RBV and will explain why this is considered to be different in the scope of dynamic capabilities. Finally, the MBV will be considered from the viewpoint of market based assets.

Teece (2007) strongly criticized the structure-conduct-performance paradigm, by claiming it to be a strategy, which somehow decides upon an attractive industry and finds its position, which is protected from the competition. He structured his criticism of Porter's five competitive forces in five points:[356]

- Five forces do not recognize the importance of innovation and other key factors that can influence industry structure.
- It does not include factors within companies that limit the choices.
- Neglects factors which influence imitation and appropriateness issues.
- It does not include the role of supporting institutions, complementary. assets, co-specialization and network externalities.
- The nature of industry boundaries is not clear.

[355] This definition is based on the definitions of Teece et al. (1997), p. 516; and Griffith/Harvey (2001), p. 598.
[356] Cf. Teece (2007), p. 1324f.

Although the five forces model is somewhat dismissed by Teece, he considered it complementary in many ways:

> "(…) the essential elements of the dynamic capabilities approach, the sections that follow compare and contrast this approach to other models of strategy. (…). Needless to say, these approaches are in many ways complementary and a full understanding of firm-level, competitive advantage requires an appreciation of all four approaches and more." (Teece et al. (1997), p. 510f)

Although some points of criticism are on the mark others seem to be the consequence of the fact that Teece himself has narrowed the applicability of dynamic capabilities down to industries of rapid technological change. This view is in accordance with the mainstream research in dynamic capabilities, but is nonetheless one of the reasons why dynamic capabilities cannot claim mainstream recognition. As the applicability of the five forces loses its appeal in the industries which are dynamic by nature, such as semiconductors and biotechnology, dynamic capabilities have also restricted their research to these "dynamic" industries. The more traditional industries and the private sector, where the five forces model performs to its task remain un-researched by dynamic capabilities.[357] Teece prefers the business-ecosystem model for the analysis of the external environment, which represents a framework that recognizes the role of innovation and its supporting infrastructure and how this role impacts competition.[358]

This criticism will be addressed in two points, which are key for the issues raised by Teece (2007) and for the niche theory, which will be constructed in the third part: the dynamics of the external environments and the creation of new markets. The first point refers to the dynamic changes which are present in many industries. Competitive advantage is based on market power, which a company can

[357] Cf. Easterby-Smith et al. (2009), p. 7.

[358] Teece later points out that the gap or criticism of the MBV is based in the roots of the dynamic capabilities. The essence of strategy in dynamic capabilities is based on the selection and development of innovative technologies and new business models, which are based on the difficult-to-imitate assets as a source of competitive advantage, in which it shapes the competition. This framework of dynamic capabilities is based on Kirznerian, Schumpetrian and evolutionary models of economic change. The essence strategy according to the five forces is in the way a company deals with the competition and is based on the Mason-Bain paradigm of industrial economics. Cf. Teece (2007), p. 1325. Although, Teece fails to mention the point that Porter's five forces framework significantly departs from the traditional industrial organization theory, by focusing on the firm as the central object instead of industry performance. Furthermore, his industry structure is not completely exogenous or stable as previously assumed. Spanos/Lioukas (2001), p. 908.

achieve through optimal positioning in the industry according to industry structure. Industry structure has great impact on the competitive rules of an industry and consequently influences the strategic options of a company.[359] Industries have obstacles, which are the result of competitive forces, e.g. market entry barriers, which contribute to industry attractiveness and enable companies to achieve competitive advantage. If an industry's structure is subject to constant change, the company is not able to react appropriately to changing market conditions. Meaning that competitive forces are more suitable for relatively stable industries and markets than for dynamic markets, in which the competitive forces are unable to cope with the pace of change.[360] The second point refers to the attribute that competitive advantage does not foresee the creation of new markets, but only the positioning within existing markets. This means that a company can only take up a defensive or offensive position within the current industry structure.[361] It does not however include the possibility that a company is able to create a new uncontested market space, which is due to the outside-in-perspective.[362] This places a limit on the MBV as the companies are only able to compete within existing industries, a new industry has to be created in order for a company to position itself in it and the option of a company creating a new industry is not included.

In order to shed the stigma of criticism and appropriately integrate the MBV into the dynamic capabilities management system, the market-based competences of a company will be viewed as market-based assets. These can be defined as:

"These assets can be conceptualized as market based assets or assets that arise from the commingling of the firm with entities in its external environment." (Srivastava et al. (1998), p. 2)

Assets can be described as those attributes of a company, which can be developed, fostered and used for the internal and external purposes of the organization.[363] These market based assets come from the distinction between tangible and intangible assets.[364] Intangible assets represent internal as well as external company

[359] Cf. Teece et al. (1997), p. 511.
[360] Cf. Spanos/Lioukas (2001), p. 908.
[361] A defensive position means that a company chooses a strategy, which will defend it against competitive forces, or an offensive position, which will enable it to influence the competitive forces in its favor. Cf. Spanos/Lioukas (2001), p. 909.
[362] See Kim/Mauborgne (2006).
[363] Cf. Srivastava et al. (2001), p. 779.
[364] These tangible assets of a company can be found on the balance sheet; intangible assets on the other hand do not show up on the company's balance sheet. In some industries

assets and market based assets represent the external intangible assets.[365] There are two types of market-based assets which can be differentiated:[366]

- *Relational*. These assets are the result, of the relationships, which a company has with its external key stakeholders in its market(s). The stakeholders include of the company are distributors, retailers, end customers, other strategic partners, community groups, and government agencies. The basis for this relationships are such intangible factors as reputation and trust, in time these relationships can become rare and difficult for competitors to imitate. As a consequence these relations are difficult to measure and external to the company which makes them often only available and not owned.
- *Intellectual*. Represent all the information and in-depth knowledge, which a company possesses about its external competitive environment. Companies face various strategic and informational problems and opportunities, which come from the heterogeneity of demand and product and service supply. This knowledge and information includes present and future outlook on the market and the entities, which inhabit the market.[367] The attributes of this knowledge and information are facts, perceptions, beliefs, assumptions, and projections. The contents of these entities and attributes have significant differences amongst one another. These entities and attributes enable a company to develop scenarios, to respond to changing market conditions.

Based on this market-based asset view one can conclude, that the MBV can also be viewed as complimentary to the RBV. This complementary role can be observed in the fact that it gives a company external assets, which take on the attributes of resources, meaning that they are valuable, rare, imperfectly imitable and strategically difficult to imitate by its competitors.[368]

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these intangible assets represent the predominant assets of the company and this holds true especially for professional service firms.

[365] Intangible assets which are internal to the organization are e.g. skills, knowledge, experience, patents and motivation. On the other hand market-based assets can be e.g. customer loyalty, corporate image, customer awareness, relationships with different customers and suppliers. Cf Sharp (1995), p. 4f.

[366] Cf. Srivastava et al. (1998), p. 4;Srivastava et al. (2001), p. 779ff; Griffith/Harvey (2001), p. 600f.

[367] These entities include competitors, customers, channels, suppliers and social and political interest groups.

[368] Cf. Griffith/Harvey (2001), p. 600.

This concludes the overview of the MBV in the scope of dynamic capabilities. The market-based assets will provide a foundation for the integration of the MBV and RBV inside the dynamic capabilities framework. Following this review are the main characteristics, which are important for the RBV in dynamic capabilities.

II.2.2 Resource-based view and its connection with dynamic capabilities

Similar to the role of the MBV in dynamic capabilities, the RBV in this sub-chapter will be analyzed in its relation to dynamic capabilities. The RBV as already described in chapter II.1 "The beginnings of dynamic capabilities", is the basis upon which the dynamic capabilities were established and therefore instrumental to their understanding. The objective of this sub-chapter will be to detail this role of the RBV and how it translates into dynamic capabilities.

To shortly recapitulate the RBV in order for the resources and capabilities to be valuable for a company, they must possess the following attributes:[369]

- these capabilities have to be difficult to imitate;
- there has to be a homogeneity in the ownership between companies;
- they have to provide new opportunities for the company.

These attributes are then characterized through the heterogeneous distribution between the various companies in an industry, which makes them hard to imitate. Thus, the mere possession of assets and resources which can be bought or are otherwise present in a company does not guarantee a company above average profits or a source of competitive advantage.[370] This leads to the realization that some capabilities, which a company has developed, are difficult to transfer and are specific to the context under which they were developed.

This idea was already implied by Teece (1984), who is one of the founders of dynamic capabilities, before the actual concept of the RBV had been developed.

> "The basic idea behind strategic management is that a firm needs to match its capabilities to its ever-changing environment if it is to attain its best performance. This will typically involve the formulation and execution of plans relating to the establishment and deployment of a firm's assets." (Teece (1984), p. 87)

[369] Cf. Barney (1991), p. 106; Mahoney/Pandian (1992), p. 364f.
[370] Cf. Dierickx/Cool (1989), p. 1505f.

Therefore the focal point of interest of dynamic capabilities in RBV is that the RBV considers the utilization of resources and their development as dynamic. It is therefore the use of resources and not the resources themselves that are the source of competitive advantage. The main reason behind this is that the change in resources is triggered by innovative managerial actions. This insight leads to the realization that topics such as skill acquisition, knowledge and know-how management and learning become the focal point of fundamental strategic issues. RBV implies that the combination of physical, human and intangible assets is the source of value creation over time. This enables a dynamic observation of a company and handling of resources and consequently presents the greatest potentials of contributions to strategy.[371]

This relevance of the RBV can also be observed in the following statement:

> "Dynamic capabilities are more than a simple addition to RBV since they manipulate the resources and capabilities that directly engender rents." (Zott (2003), p. 120)

This puts forth the question of why the RBV was not sufficient for the scientific community, leading to the development of dynamic capabilities. The answer lies in the static nature of the RBV. A company which has resources or competences but does not possess any dynamic capabilities will likely only be able to achieve a short-term competitive advantage and long-term competitive advantage in this case would only be a product of chance.[372] Such a company will in the state of equilibrium, create revenues on the basis of the same product capabilities, which are produced on the same scale and for the same customers. These capabilities are mainly concerned with the current company operations and without these capabilities the company could not manage its core business since they are so called *"zero-level"* capabilities. Capabilities which upgrade the product, how the product is produced, or the markets, on which the product is sold, are not at a zero level. These capabilities which change the products attributes, characteristics, or purpose are so called

[371] Cf. Coates/McDermott (2002), p. 437; Teece et al. (1997), p. 514. This view is in accordance to Schumpeter's process of creative destruction, which was enlightened is subchapter II.1.1 "The beginnings of dynamic capabilities".

[372] These short term advantages can be based on Ricardian rents, if the demand increases for the output of the company, or rents according to Porter, which are the product of protection against competitive forces. However, the company will not be able to achieve Schumpetrian rents, which are based on the new combinations of resources, or Kirznerian rents, which bring the market back to the equilibrium. Cf. Teece (2007), p. 1344.

"*first order dynamic capabilities"*. The main reason for this occurrence is the process of *change*, which is key for the development of dynamic capabilities.[373]

This has triggered the examination of a company's competences in changing environments, where the RBV scholars started putting emphasis on the dynamic nature of capabilities and how these capabilities evolve over time.[374] The specific physical, human, and organizational assets became a focal point of these capabilities and were viewed as a dynamic capability, which enabled the company to change their resource configurations. These capabilities become key drivers for the creation, development and new combinations of resources, which then lead to new sources of competitive advantage. [375]

The RBV was the key trigger and the theoretical framework, on which the dynamic capabilities were built. It was due to the static nature of the RBV that presented deficiencies in the explanation of the changing environment in industries and markets, which has led to the creation of the dynamic capabilities. The final subchapter of the second part will present an integrative perspective between the MBV and RBV and the role of dynamic capabilities.

II.2.3 Dynamic capabilities and niche strategies

The last part will focus on the similarities between the two approaches described in sub-chapters "II.2.1 Market-based view and its connection with dynamic capabilities" and "II.2.2 Resource-based view and its connection with dynamic capabilities" and how and in what way they both contributed to the development of dynamic capabilities. The objectives of the sub-chapter will be to show how dynamic capabilities represent a synthesis between the two views and provide an analysis of the previous views on this integrative perspective and place the dynamic capabilities paradigm in the market niche framework for the construction of the market niche model.

As it was already pointed out and explained, the MBV and RBV have had an important influence on the development of dynamic capabilities. These relationships amongst MBV, RBV and dynamic capabilities are shown in figure II-4. This figure shows how dynamic capabilities are an upgraded combination of the MBV and RBV. The MBV, which is a traditional strategic model, focuses on the market

[373] Cf. Winter (2003), p. 992; Collis (1994), p. 145f.
[374] Cf. Erwin Danneels (2002), p. 1096.
[375] Cf. Eisenhardt/Martin (2000), p. 1107.

as a basic unit of analysis, which is done in a static context. The strategy process in the MBV, firstly focuses on the selection of an industry based on its attractiveness, based on the strategy of industry incumbents and then a decision is made on an appropriate market entry strategy and finally acquiring the required resources or assets for the market competition.[376]

The RBV, which is a more contemporary strategic model, also similarly displays a static nature but in contrast to the MBV focuses on the company as the basic unit of analysis. The strategy process is conducted from the inside-out perspective. First, the company identifies its unique combination of resources and based on this a decision is made in which markets and industries the company will compete in to achieve the highest profits. As a final step, the company proves if the profits are capitalized in an effective manner.[377]

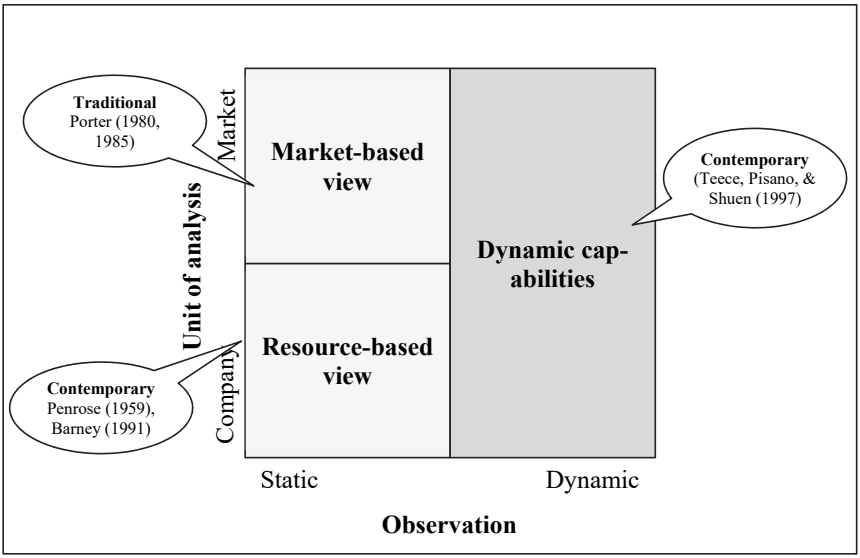

Figure II-6: Overview of strategic models.

(Source: on the basis of Powell et al. (2004), p. 4)

[376] Cf. Teece et al. (1997), p. 514.
[377] Cf. Teece et al. (1997), p. 514.

The essence of the MBV is in the establishment of *market power*. This market power is manifested through the creation of protective barriers, which limit or restrict competition, and thereby shield the company from competitive forces.[378]Porter describes this market power as:

> "The goal of competitive strategy for a business unit in an industry is to find a position in the industry where the company can best defend itself against these competitive forces or can influence them in its favor. Since the collective strength of these forces may well be painfully apparent to all competitors, the key for developing strategy is to delve below the surface and analyze the sources of each." (Porter (1980), p. 4)

This is of course as mentioned several times already only one side of the coin, which refers only to the external environment of a company, with the capabilities and responses of the individual company being neglected. This emphasis on efficiency is at the core of the RBV. The source of competitive advantage hereby lies in the high-performance routines, which are the result of the processes which take place inside the company.[379] If market power and efficiency is generalized and placed in the context of a SWOT analysis, the conclusion can be drawn that the RBV based on efficiency displays the internal strengths and weaknesses of a company. On the other hand, MBV based on market power illustrates the company's opportunities and threats in its external environment.[380]

Dynamic capabilities as an integrative perspective sets the primary focus of analysis on the company but also includes the market component and this analysis is done in a dynamic environmental setting (see figure II-6). As a result of these dynamic environments, the competitive advantage, which is the result of company specific resources, which are specific and difficult to imitate are no longer sufficient due to the dynamic nature of the changes in the market. This in turn means that a company which wants to remain competitive in the market has to constantly change and evolve its competitive advantage. If a company fails to evolve its competitive advantage, it can become its disadvantage in the future. It is therefore of vital importance for a company to continue the processes that integrate, reconfigure and attain and clear resources in order to cope or even change market dynamics.[381]

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[378] Cf. Teece (1984), p. 8.
[379] Cf. Teece et al. (1997), p. 528.
[380] SWOT (Strengths, Weaknesses, Opportunities, and Threats) is a strategic planning method of analysis.
[381] Cf. Powell et al. (2004), p. 4f; Eisenhardt/Martin (2000), p. 1107.

The integrative role of dynamic capabilities lies in the creation of a competitive advantage, through the strategic assignment and allocation of resource-based and market-based assets.[382] Based on these foundations, the internal and external assets are the required sources that enable a company to develop appropriate strategies, which then result in a competitive advantage. Dynamic capabilities provide the action dimension that the RBV and MBV lack (see figure II-6).[383]

The objective of companies, which apply the dynamic capabilities framework, is not in the creation of defenses, which shield it from competitive pressures. Rather these companies shape competition and the performance in a market or industry through constant innovation, an entrepreneurial mind-set and reconfiguration and alignment of resources and assets.[384]

This concludes the second part of the thesis. After providing a basic introduction into strategic niche management in the first part, the second part has provided a theoretical framework upon which the strategic niche management model will be built based on the deficiencies, which were identified in the first part, most notably the ambiguity in the understanding of the niche and the strong focus on the MBV as a source of niche generation in strategic management. The second part of the thesis looked for a framework, which would eliminate these deficiencies and provide a sound foundation on which the model will be built. Therefore, the integrative framework of dynamic capabilities was chosen, which addresses two key issues. Firstly, it provides an integrative concept between the complimentary concepts of MBV and the RBV. Secondly, it addresses the "static" criticism of the MBV and RBV by including the dynamic nature in which niches usually occur.

Following the specification of the framework upon which the model will be built is the third part, which will focus on the model building process and the creation of the niche model for strategic management.

[382] Cf. Leonard-Barton (1992), p. 123.
[383] Cf. Griffith/Harvey (2001), p. 598.
[384] Cf. Teece (2007), p. 1344f.

Part III: Market niche model framework for strategic management

The third part of the thesis will be centered on model construction and theory. The first chapter of the third part deals with model building as a framework for theory construction. The second chapter, which represents the core of the thesis, creates the model of market niches which can serve as the framework for a strategic management theory of market niches. This model of market niches represents a synthesis of the key findings from the previous two parts and looks to achieve a high level of validity and limitation of the number of cases in the application of niche strategies in strategic management.

The main purpose of developing new models and theories is in achieving scientific progress, which can be described as the accumulation of scientific knowledge, where scientific progress is achieved when there is more knowledge at the end of a specific scientific process than at its beginning.[385] Text Scientific progress, models and theories go hand in hand, but there is still a lot of controversy surrounding the question what constitutes a scientific model or theory because there is little consensus when discussing what and how models could or should look like.[386]

The focus of the first chapter is to clarify some basic questions about scientific models as a framework for theory construction, which will enable the market niche model construction in the second part of the chapter. Chapter III.1 is therefore structured into three parts, which are aimed toward the first goal of the third part (see figure III-1).

[385] Cf. Bird/Alexander (2007), p. 64. Epistemology is the theory of knowledge and justification, it is concerned with the study of how we know what we do, what justifies us in believing what we do and what standards of evidence should be used to find out the truth about the world and the human experience in it. It is concerned with the nature and scope or limitations of knowledge. Audi (2007), p. 1f; Fumerton (2006), p. 1ff.

[386] Cf. Schülein (2008), p. 7.

G. Ocvirk, *Strategic Management of Market Niches*, Schriften zur Unternehmensentwicklung, https://doi.org/10.1007/978-3-658-20364-1_4

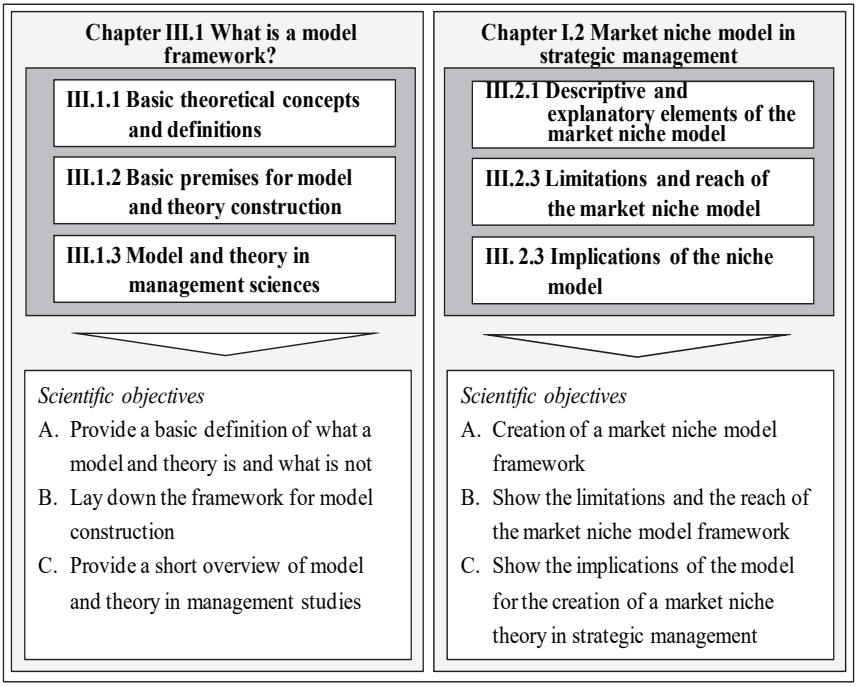

Figure III-1: Structure of Part III

The second chapter provides the model for the market niche. This chapter is also structured into three sub chapters, which provide the basic model definition, describe its limits and implications for the creation of a market niche theory (see figure III-1). Similarly to the structure of the previous two parts, the scope will be broad at the beginning, before narrowing it down towards to the topic in question.

III.1 What is a model framework?

The question about what a model and theory is seems perhaps a bit over-generalized at this point, but the following three sub chapters will explain that this question is not as easy to answer as it originally seems. Robert Merton explained the issue with the following statement:

> "Like so many words that are bandied about, the word "theory" threatens to become meaningless. Because its referents are so diverse—including everything from minor working hypotheses, through comprehensive but vague and unordered speculations, to axiomatic systems of thought—use of the word often obscures rather than creates understanding." (Merton (1967), p. 39)

What Merton was implying was that there is little agreement in the scientific community on what is actually understood when referring to theory. Disagreements arise on topics such as theory falsifiability, typologies and theory versus method among others.[387] It is therefore of vital essence to identify formal methods and techniques that are vital for the formulation of effective theories.[388] This is why it is important to have a clear understanding of several key factors that have to be considered in order to meet the scientific requirements when dealing with model and theory construction. These factors and their application will be key in the second chapter of the third part, where the market niche model will be formulated.

The structure of the chapter will be divided into three parts: the first part *(III.1.1 Basic theoretical concepts and definitions)* will explain and provide the basic definitions as well as a critical reflection of these definitions and their application. The second part *(III.1.2 Basic premises for model and theory construction in management sciences)* will focus on the framework and method that will be used for the construction of the model and the starting point for a comprehensive market niche theory in strategic management. The last part *(III.1.3 Model and theory in management sciences)* will show a critical assessment of model and theory in management sciences and its special features.

III.1.1 Basic theoretical concepts and definitions

The first part of the third chapter will be structured around definitions and theoretical conceptions. However, before going on to the definitions it is important to explain what definitions are and how they are constructed. This will not only contribute to a clearer understanding of the definitions in the following sub chapters, but it will also provide an important contribution for the second part of this chapter where new definitions will be created for the strategic market niche model in strategic management.

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[387] Cf. Sutton/Staw (1995), p. 371f.
[388] Cf. Freese (1980), p. 187.

Definitions are fundamental tools of every research project because they represent the link between the objective and linguistic reality.[389]

A definition is a statement of the meaning of a word or phrase. It is composed of two parts, where one part includes the term to be defined (definiendum), and the other part the defining formula (definiens). The definiens is the defining component of the definition. [390]

Definiendum = Df Definiens

It was not until that the Austrian British philosopher Karl Popper made the distinction between two main methods of definition: [391]

- The *Essentialist method*[392] which Popper defined as:

"(…) by thus describing the essence to which the term points…we determine or explain the meaning of the term also. Accordingly, the definition may at one time answer two very closely related questions. The one is "What is it?", (…). The other is "What does it mean?" (…)." (Popper (1966), p. 13)

Popper traced the roots of this traditional method of definition back to the essentialistic interpretations of definitions, which already began with the philosophers Plato and Aristotle, where the objective of science is defined as the discovery and description of the essence of things. This definition explains the meaning of the word and at the same time answers the question of the essence of the word in question. [393] The essentialist definition would read the formula in the text box above from left to right where the definiendum is "the name of the essence" and the definiens is the thorough description of the essence.[394] Popper sees the epistemological objective of the essentialistic method in the transfer of knowledge. Therefore, the mission of science is to convey the essence of things with precise definitions;

[389] Cf. Boysen/Ringle (2008), p. 10.
[390] Cf. Chmielewicz (1994), p. 50.
[391] Sir Karl Raimund Popper was one of the most influential philosophers of the twentieth century and professor at the London school of Economics, but was most widely known among systematics for his work on the scientific method. His quest was to achieve a better understanding of science and society. Cf Wettersten (2005), p. 119ff.
[392] Scientific essentialism as understood here is: "(…) the view that the fundamental laws of nature depend on the essential properties of the things on which they operate and not independent of them. These laws are not imposed on the world by God, the forces of nature, or anything else, but rather are immanent in the world." (Ellis (2001), p. i).
[393] Cf. de Queiroz (1994), p. 498.
[394] Cf. Büttemeyer (2005), p. 16.

the science limits itself to conceptual and definition issues. This, according to Popper is the main reason that social sciences are lagging behind natural sciences.[395]

- *Nominal method.* is defined by Popper as:

"(…) a definition, as it is normally used in modern science must be read from back to front, or from the right to the left; for it starts with the defining formula and asks for a short label to it." (Popper (1966), p. 14)

The nominal definitions substitute short terms for longer ones and they describe the meaning of the term in question. A nominalist definition does not start with a defined term but rather with a description of a concept or entity, which is described with many words and equates it with a definition to a single word or phrase (formula is read from left to right). Meaning that nominalist definitions simply introduce new names as abbreviations for complex expressions. This can happen in two ways: first, it can exemplify a meaning of the word and separate it from other meanings or terms and secondly, it can introduce a new term and determine its exact meaning.[396] Nominal definitions cannot be judged as true or false statements because the logical value is not given and when alone the question of truth or numeration of a nominal definition is out of place. The demands on nominal definitions are less stringent than with essentialist definitions, they are primarily used to explain and specify the use of terms.[397]

Additionally, when talking about definitions there has to be a differentiation between *intensions* and *extensions*.[398] Intension is the attribute belonging to the predicate. An intentional definition, also called a *connotative* definition, specifies the required and adequate conditions for an object being a member of a specific class. Any definition that attempts to set out the principal object of something by genus and differentia is an intentional definition. It corresponds with the definiens on the right side of the nominal definition.[399] Extension is the class or the volume

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[395] Cf. Chmielewicz (1994), p. 49.

[396] Cf. de Queiroz (1994), p. 498; Büttemeyer (2005), p. 18f.

[397] Cf. Chmielewicz (1994), p. 49.

[398] Intentsions and extensions both come from the Latin language. The word intension comes from in-tendere which means to aim at something and extension comes from extendere which means to stretch out.

[399] A genus-differentia definition is one in which a word or concept that indicates a species -- a specific type of item, not necessarily a biological category - is described first by a broader category, the genus, then distinguished from other items in that category by a differentia. The differentiae of a species are the species' properties that other members of the genus do not have. In short, the genus is the broad category, the species is a type

of objects which can be attributed to its meaning. An extensional definition, also called a denotative definition of a concept or term specifies its extension. It is a list naming every object that is a member of a specific class.[400]

The practical definition problem is to first limit the object class, for which similarities can be identified and then formulate theoretical statements. Afterwards, the right attributes have to be identified in the definiens in order to circumscribe the object class in question. If the chosen class is too ample the statement formed with the concept will fail in reality and it will be falsified. On the other hand, if the chosen class is too narrow, the generality of the formed statements is lesser than its potential. This means that by increasing intension or additional attributes, the extension drops meaning that the objects are included in the class decline.[401]

The nominalist definition represents a vital step in theory building because of the necessity for a clear conception of definitions as a precursor to theory building.[402] Therefore, there has to be a clear set of requirements or guidelines which a definition must fulfill in order to avoid misunderstandings and unclear definitions which could undermine the constructed theory. These requirements and guidelines represent the standards for definitions that were already used in the thesis and will also set the guidelines for the new definitions that will be built in the second part of this chapter. In the following paragraph ten such requirements or guidelines will be presented and analyzed:[403]

- The allocation of definiendum and definiens should be unequivocal, meaning that there should not be a definiendum with two or more different definiens.
- The accuracy of the concepts should dominate over the linguistic diversity or alternation. This means that if the linguistic expressions of definiendums are repeatedly used in the scientific text, it has to be repeated with the exact expressions and not substituted with similar but not synonymous expressions.
- The definiendum should not recur in the definiens because in this case the expression would only elucidate itself.

within that category and the differentiae are the distinguishing characteristics of the species. Cf. N.U. (2000b).

400 Cf. Boysen/Ringle (2008), p. 16.

401 Cf. Chmielewicz (1994), p. 56.

402 Cf. Chmielewicz (1994), p. 51.

403 Cf. Albers/Zottmann (1983), p. 452ff; Rhenius (2005), p. 38f; Friedrichs (2002), p. 73ff; Horstschäfer (1998), p. 106ff; Kornmeier (2007), 106ff.

- The problem of circle definition, which happens in the situation when the expression in the definiendum can be defined by the expression in the definiens and the other way around. Therefore, it is methodologically advisable that the two expressions should be defined independently from one another.
- The formation of sub concepts should not violate the definitional equation of the superordinate concept. Meaning that if certain facts are defined as genuine circumstances, then there can be no expression where these facts are wrong.
- There cannot be any inconsistencies or pleonasms in the employment of expressions within statements.
- The next requirement is called infinite regress, where each part of the definiens on the right can be defined again. This new definition can be defined again on its part. This regress can be discontinued with so-called undefined fundamental terms, which cannot be treated as a definiendum anymore.
- The problem of empty formulas is closely connected with the last point is. This means that statements are formulated, where central expressions of higher complexity are included, without an adequate exact definiens for these terms. These expressions are then relatively freely applicable depending on the focus of interest. The basic demand is to specify the definiens of empty formulas.
- The relational character in the definiens or in the statement built by the expression should be made clear if the expressions encompass relations instead of attributes.
- A traditional requirement is that negative terms or definitions are to be avoided.

This paragraph has provided some fundamental understanding regarding definitions, basic methods for definition building and requirements and guidelines for adequate and consistent definitions. Furthermore, the key definitions regarding theory and theoretical approach will be shown using a top down approach. Starting at the school of thought and working down towards theory. Each of these definitions will be explained and critically assessed and then presented in their relation to theory.

(1) School of thought and paradigm

Although the concept of school of thought is closely knit in regards to content with the paradigm concept, there are several identifiable differences between the two.

They still both represent a meta level for a model or theory which strongly influences the process of model construction in regards to the concepts and methodologies which will be applied. Therefore, the objective of this paragraph is to answer the following questions:

- *What is a school of thought and what is a paradigm?*
- *How do schools of thought and paradigms influence model creation?*
- *What is the role of the model and theory in paradigm and school of thought formation?*
- *Which are the main schools of thought and paradigms in business and organizational studies?*
- *What do they have in common and what sets them apart?*

A school of thought simply states that subgroups, circles, and networks can be built within different scientific disciplines. [404] Recently, there has also been a lot of focus on different methods of empirical analysis for the study of structures of scientific research. The leading method that has established itself in the last 30 years is the co-citation analysis. This method studies the structures based upon the analysis of citations and co-citations. The co-citation method answers three main types of questions regarding the formation of a school of thought: Which publications exert most influence on the discipline? Which communities and areas of research does the discipline encompass? Which documents define the discipline's communities or areas of research?[405] This allows researchers to have a sort of empirical cross-check of the scientific field in order to see if the identified school of thought corresponds with the literature indentified as key for their for their research subject.

The definition of school of thought as understood in this thesis will be based on a combination of Morrell's and Geison's view of the subject. According to Morrell a school of thought which he labeled "research school", was an establishment that prospered in universities and research institutes. These research schools depended on the help of patrons, a constant influx of new students, a constant amount of problems that can be tackled in a limited amount of time by revisable methods and had the means to reach its core audience and leaders that were able to do from the efforts in profitable ways.[406] According to Geison, a school of thought is a small

[404] Cf. Olesko (1993), p. 16.
[405] Cf. Gmür (2003), p. 48f.
[406] Cf. Servos (1993), p. 10.

group of seasoned scientists that are following a closely knit research program where they are working together with advanced students in the same institutional context and where they engage in direct, lasting social and intellectual interaction. The role of the director of this process is to assist the new students by making their transition from learning to individual research as easy as possible.[407] These two approaches use a very different viewpoint on the subject of the school of thought. Morrell's viewpoint is not as much on the content aspect but rather on the organization, external influence and the reach that a school of thought can achieve, hereby giving it legitimization and prominence within the scientific community. Geison (1981) on the other hand, saw the school of thought concept from an internal perspective where the formation, development, and advancement of schools depends on the collaboration and knowledge sharing between established scientists and the new generations of scholars.

These two aspects lead us to the following definition of a school of thought:

A school of thought is an integrated theoretical framework that provides a clear point of view on specific scientific field and that is associated with an active stream of empirical research.[408]

Based on this definition, McKinley et al. (1999) presented a model, which he structures the formation of a school of thought into three core process factors;

- the detection and assimilation of a theory,
- the growing number of empirical studies and
- the development of a legitimate school.

This model showed that depending on the level of novelty and continuity of the state-of-the-art knowledge, which is included in a theory, it will be linked with the probability that the new theory will be recognized and accepted by scholars. Furthermore, the degree of relevance for a wide group of scholars to which the model refers to as scope, increases the amount of empirical studies that follow, which subsequently then support the formation of a recognizable and legitimate school of thought.[409] One of the shortcomings of this model was the omission of the influence of environmental and contextual factors on a school's development.[410] It was at a

[407] Cf. Geison (1981), p. 21ff; Olesko (1993), p. 17.
[408] On the basis of Mckinley et al. (1999), p. 635.
[409] Cf. Mckinley et al. (1999), p. 643ff.
[410] Contextual factors include social structure, culture and power relations amongst others, which can influence the process, by which knowledge is created. Cf. Pfeffer (Oct., 1993), p. 615; Mitroff (Jun., 1972), p. B-617; Merton (Dec., 1995),p. 389.

later time that Ofori-Dankwa and Juilan included the contextual factors alongside the content factors in the development of schools of thought and integrated them into the model developed by McKinley et al. These three main contextual factors are publication outlet, theory originator and university of theory originator, which complement the internal factors already in place.[411]

After defining the school of thought and gaining a basic understanding of methods for school formulation and critical examination, the focus will turn to different types of school of thought in organizational and management sciences. For this purpose a scheme developed by Astley and Van de Ven (see Figure III-2) will be used to highlight the major schools. These schools are divided along two analytical dimensions; the first showing the level of organizational analysis (micro and macro level), and the second based on the relative assumptions about human nature (deterministic and voluntaristic orientation).[412] This classification into four basic perspectives (naturalistic, collective-action, system structural and strategic choice view) can classify the majority of schools of thought in organizational and business sciences, whether these borders are explicitly stated or not.[413]

[411] Cf. Ofori-Dankwa/Julian (2005), p. 1309.

[412] Determinism and voluntarism explain that if structures constrain and enable action, they also result from action themselves. As a result they can be intentionally or unintentionally altered by action. Deterministic orientation focuses on the context within which action unfolds, instead on the individual. Individual behavior is seen as determined by and reacting to structural constraints that provide organizational life with an overall stability and control. Voluntaristic orientation on the other hand sees the individual as the basic the unit of analysis and source of change in organizational life. Individuals and their created institutions are autonomous, proactive, and self directing agents. Cf. Weaver/Gioia (1994), p. 582. The level of organizational analysis is determined by the focus, where the macro level takes into account groups or populations of organizations, under the assumption that these groups do not exhibit the same characteristics as individual populations. The micro level on the other hand focuses on the individual organization. The main reason for this distinction is in the part-whole relation that exists in organizational phenomena.

[413] Cf. Astley/de Ven (1983), p. 248.

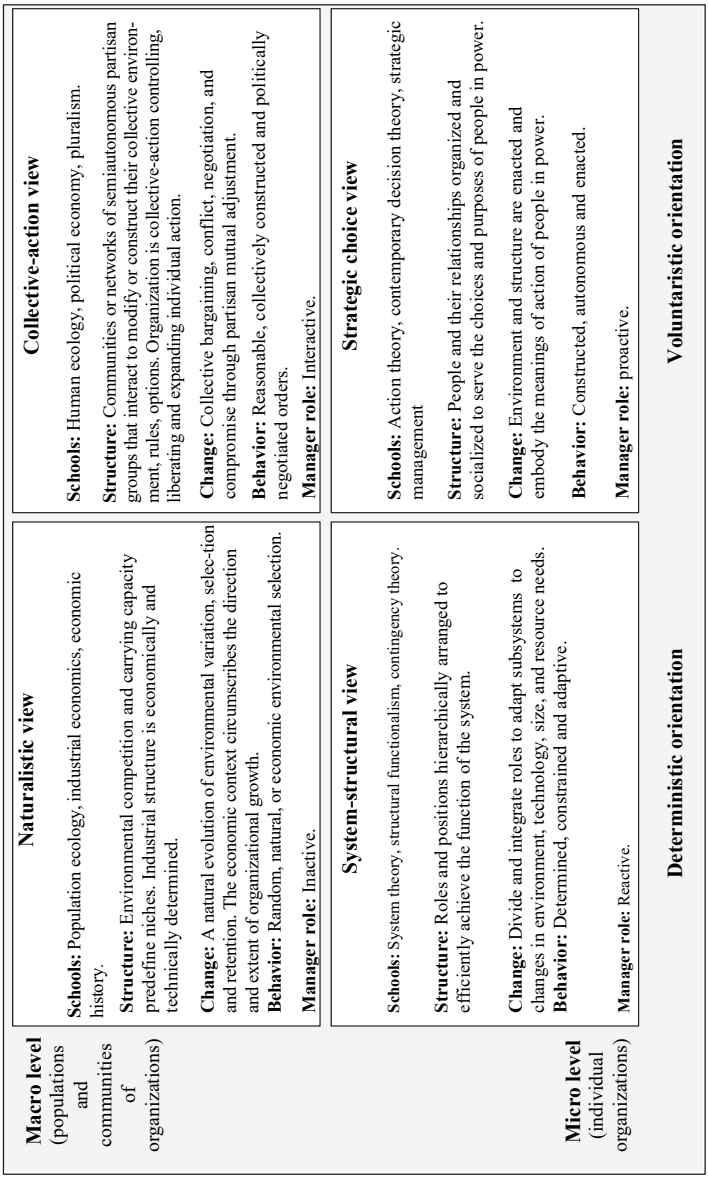

Figure III-2: Four views of organization and management.

(Source: Astley/de Ven (1983), p. 247)

Following the topic of school of thought, the attention now shifts to the paradigm concept and its role in sciences. The paradigm gained a more prominent status in the scientific community, with the 1962 book by Thomas S. Kuhn, "The Structure of Scientific Revolutions", in which he analyses the history of science.[414] Kuhn argued that current science did not possess a logic or a fixed method and was therefore unable to add or progress beyond the existing body of knowledge.[415] He argued that scientific progress does not arise from the accumulation of knowledge but rather from a set of changing intellectual circumstances and possibilities. From his viewpoint science was a series of stable periods during which scientists are steered by a paradigm. These periods of relative stability are interrupted by scientific revolutions.[416] It is when these revolutions occur that normal science reaches a point where it can no longer sufficiently answer its own scientific problems and questions.[417] To better understand Kuhn's approach there has to be an understanding of the pre-paradigmatic concept. The pre-paradigmatic science classified knowledge into two categories; science and non-science. Research of law-like generalizations of the world was the objective of science, which was bound by the scientific method used in natural sciences. Factuality and objective truth was the understanding of knowledge produced by science.[418]

A paradigm represents a mutual understanding on the nature of phenomena (ontology), the nature of knowledge about this phenomenon (epistemology), and the nature in which this phenomenon is studied (methodology).[419] Kuhn gave the paradigm concept its contemporary meaning, where he defined the paradigm as:

> "(…) an underlying notion of the nature of our subject matter that makes certain kinds of questions about it askable and others unaskable, that makes certain kinds of inquiries seem legitimate and promising and other kinds seem irrelevant, impossible, unnecessary, or fruitless."(Catton (1983), p.4).[420]

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[414] Thomas Samuel Kuhn was one of the most influential philosophers of science of the twentieth century, his most influential work, "The Structure of Scientific Revolutions" is one of the most cited academic books of all time.

[415] Cf. Bird (2002), p. 2.

[416] Cf. MacKenzie/House (1978), p. 7. These stable periods are labeled as "normal science".

[417] Cf. Harvey (1982), p. 86; Gladwin et al. (1995), p. 880.

[418] Cf. Jackson/Carter (1991), p. 111f; Willmott (1993), p. 687.

[419] Cf. Fabian (2000), p. 351.

[420] More simply put a paradigm is a range of theories, standards, methods, and beliefs, which are commonly accepted by the scientists in the field. Cf. MacKenzie/House

Looking at the definition above, it is possible to break the definition down into three parts, each of which must be met in order for a paradigm to achieve scientific validity. These parts are:[421]

- the prescriptive model,
- theoretical assumptions, and
- methodological assumptions and procedures.

After Kuhn's definition, which remained the dominant definition of the paradigm in sciences, Burrell and Morgan similarly developed a framework of definitions of the paradigm in organizational sciences. They developed a two by two matrix model in which they incorporated four different basic research paradigms according to the objective vs. subjective and regulation vs. radical change axis. The first one is the radical humanist paradigm, which has a subjectivist view, with an ideological orientation; the next is the radical structuralist paradigm which has an objective stance with and ideological concern. The third paradigm is the interpretive which is distinguished by a subjectivist view, with a tendency toward regulation. Last but not least, the functionalist paradigm is identified by the objectivistic view or the organizational landscape and a tendency toward regulation.[422]

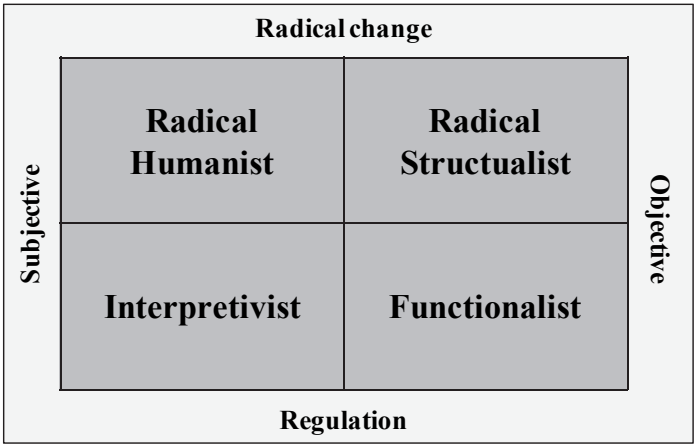

Figure III-3: Burrell and Morgan's paradigm matrix.

(1978), p. 7. See also Bird (2002), p. 5f; Hazlett et al. (2005), p. 34; Morgan (2007), p. 49.

[421] Cf. McCourt (1999), 1012.

[422] Cf. Gioia/Pitre (1990), p. 585.

(Source: Burrell/Morgan (1979), p. 1et seqq)

This view was seen as an addition to Kuhn, who developed his definition of the paradigm exclusively for the study of natural sciences.

In the following five paragraphs, the function, use, influence, and shifts of the paradigm will be taken under the loop, in order to get a better understanding of its use in sciences.

Paradigms assist scientists with the organization of science and show a path for its development. Ideas and facts need a frame of reference in order to organize the growing accumulation of knowledge.[423] A paradigm stands for a Metatheory of great reach; it can also be seen as a certain view of the world. Therefore, a paradigm is more than a single theory or a single hypothesis.

Paradigms influence certain aspects of reality which scientists then display in their research. This influence includes certain rules and standards, regarding the selection of scientific problems which are to be researched, the use of selected theories and methods which are seen as appropriate.[424]

Viewing from a functional point of view, a paradigm fulfills the cognitive, normative and social function. The cognitive function determines what the scientist that uses a certain paradigm sees or does not see. The importance of things in the field in which the scientist is active is determined by the normative function. Finally, the social function determines with which scientist they will share some general opinions about the scientific field in which they are active. This social component refers mainly to the fact that paradigms can be understood as groupings of scientists that hold a homogeneous opinion, which is different from the opinions of other groups of scientists.[425]

On the basis of this social component Kuhn makes a distinction between two types of scientists. The first type is the smaller group of scientists, who through their work in their academic field can be termed as trailblazers. The work of these scientists has a lasting effect on science; their work can be termed as innovative and unspecific. It is innovative in the sense that their research can attract other scientific colleagues to their field and unspecific in the sense that there are still an abundance of problems, which the scientific colleagues who were attracted to the field can

[423] Cf. MacKenzie/House (1978), p. 7f.
[424] Cf. Burrell/Morgan (1979), p. 3f.
[425] Cf. Kurtz (2001), p. 69.

solve. The second group of scientists perform their research within the predominate paradigm in their field.[426]

Paradigms are perishable and they substitute one another. Kuhn said that scientific disciplines tend to paradigm shifts. This happens when a current paradigm runs into a dead end, which means that there can be no more adequate answers to present scientific problems on the basis of the accepted paradigm.[427] This is followed by scientists who develop alternative solutions to this problem by presenting their case or alternative view of the world. The alternative view is usually the trigger for paradigm shifts; the new paradigm also usually presents an opposite view as the current predominant paradigm.[428]

Another important topic of debate concerning the paradigm is the incommensurability vs. the multi-paradigm perspective, which has caused quite a stir in the scientific community. It has proponents on both sides defending its stance with great passion and diligence. This issue is also very important from the theory building perspective as it can influence the different aspects and methodologies applied in the process of theory building, depending on the type of perspective applied.

The roots of incommensurability stem from the contradictory convictions of ontological vs. epistemological, human nature and methodological assumptions of objectivity vs. subjectivity and regulatory vs. radical change, which are the fundamental propositions in science. The objective of paradigm incommensurability is to institute the integrity of individual paradigms, which presumes that every paradigm has to be developed separately following its own scientific questions, whilst ignoring those of other paradigms as paradigmatically null.[429] More simply put, each paradigm has to be developed and implemented individually.[430] Kuhn's model identifies incommensurability as the difference in language between normal (old paradigm) and revolutionary (new paradigm) science. He contends that scientists in normal science use a certain language including specific signifiers and that the scientists in the revolutionary paradigm are using the same signifiers containing different signifieds. When the revolutionary paradigm replaces the normal paradigm and consequently becomes the normal paradigm, there is no more incommensurability

[426] Cf. Borland (2003), p. 122f.
[427] Cf. van Haaften (2007), p. 71.
[428] Cf. Harvey (1982), p. 87.
[429] Cf. Jackson/Carter (1991), p. 110; Jackson/Carter (1993), p. 721; Weaver/Gioia (1994), p. 568; Bird (2002), p. 6f.
[430] Cf. Schultz/Hatch (1996), p. 529.

because the previous (old) normal science has ceased to exist. This means that commensurability is achieved with the elimination of the protagonist (old normal science).[431] The modern use of incommensurability is oriented more towards scientific disciplines and the attributes of dominating paradigms within these fields. It is seen as more than just the characterization of theories but also a system of values, interest and cultures, which together with theory characterization form a system of orientation. Therefore, incommensurability represents relationships between different systems of orientation, which are incommensurable with one another based on certain rules of comparison. From this standpoint incommensurability has three main definable characteristics:

- radical difference,
- competition or conflict, and
- no objective standards of comparison.[432]

On the other hand, the objective of the multi-paradigm perspective is to explain the possible relationships between different theoretical approaches.[433] The diversity of scientific phenomena implies that there is some level of common ground, for without this mutuality the researched phenomena would be insurmountably different. Each paradigm offers different perspectives on a scientific problem or topic, where it can develop notably diverse and one of a kind theoretic aspects on a subject of inquiry.[434] There are currently three main strategies for multiparadigm research; the sequential, parallel and bridging strategy.[435] All three of these strategies will be subject to a short review. According to the *sequential strategy* certain strategies complement each other in the sense that they disclose sequence of levels of understanding within a certain research project. The relationships between paradigms according to this strategy are linear and unidirectional.[436] The *parallel strategy* is the second type of strategy of multiparadigm research. Here, the main objective is to use the paradigms on equal terms rather than as a sequence. This strategy compares

[431] Cf. Jackson/Carter (1991), p. 116f; Willmott (1993), p. 688; Weaver/Gioia (1994), p. 569f; Morgan (2007), p. 61f.
[432] Cf. Scherer/Steinmann (1999), p. 520.
[433] Cf. de Cock (1995), p. 699.
[434] Cf. Weaver/Gioia (1994), p. 577.
[435] Cf. Schultz/Hatch (1996), p. 533f.
[436] Cf. Lee (1991), p. 343ff. See also Gioia et al. (1989), p. 524.

paradigms but does not foresee any tampering with the paradigms, where it emphasizes their differences instead of similarities.[437] The last strategy is called the bridging strategy, where as opposed to the sequential and parallel strategy; the borders between different paradigms are more penetrable than assumed by the supporters of incommensurability. A bridge is constructed with the use of second-order theoretical concepts, which serves for the bridging of paradigms.[438] The paradigm has been a subject of controversy and criticism since its rise to prominence with Kuhn's work "The structure of scientific revolutions". For Kuhn's ideas were as controversial as they were revolutionary at that time within the scientific community. It is therefore very important, to also take a look at some of the main points of criticism regarding the paradigm and the reasons this criticism came about.

One of the main points of criticism was that Kuhn's research was done exclusively for natural sciences and therefore fails to transfer the analytical elements of the word paradigm into social sciences. The usage of the term has been used to describe different meanings, such as exemplar, methodical style, theory, theoretical orientation, ideology, philosophical perspective, and different combinations of these.[439] Another point of criticism is Kuhn's ambiguity of the use of the paradigm.[440]

The subject of incommensurability is also a highly controversial one which has divided the scientific community into two camps, the ones defending incommensurability and those opposing it, advocating the multi-paradigm perspective. This situation led to the so called "paradigm wars" in the 1980's and 1990's. This paradigm war was especially evident in organizational and management sciences where there is a large amount of opposing perspectives and theories. This can mainly be attributed to the increased specialization and rapid growth of new disciplines within the scientific field of organizational and management studies. According to Kuhn, scientific revolutions occur when scientists do not follow the existing methods and criteria of rationality, but rather achieve their objective with the use of irrational methods. Many discussions took place as a response to Kuhn's claims, with the end result being that the complete acceptance of Kuhn's model would mean a complete disregard of the universal concept of reasoning and rationality.[441] Many

[437] Cf Hassard (1988), p. 257f.; Hassard (1991), p. 278.
[438] Cf. Gioia/Pitre (1990), p. 591ff.
[439] Cf. Harvey (1982), p. 86.
[440] Cf. Ruse (1987), p. 98.
[441] Cf. Scherer/Steinmann (1999), p. 520.

scientific disciplines deemed this idea useless and asserted that instead theories depended on the standard and specifics of rationality in their respective paradigms.

Another critique point of the paradigm came from Robinson, who said:

> "Progress in science is won by the application of an informed imagination to a problem of genuine consequence; not by the habitual application of some formulaic mode of inquiry to a set of quasi-problems chosen chiefly because of their compatibility with the adopted method." (Robinson (2000), p. 41).

With this statement Robinson primarily criticized Kuhn's understanding or role of the paradigm. Especially Kuhn's belief that science is paradigmatic where as Robinson understands it as imaginative and self creative. He argues that science is becoming a set of methodologies which are applied by a "hired hand" to solve scientific problems.

The vital part of this thesis will be to choose an appropriate paradigm in business sciences which will then guide the theory building process. This will be especially relevant in the second chapter of the third part of the thesis. As we can see from figure III-4, there are a lot of paradigms in the field of business sciences. The question which paradigm(s), depending on the decision between incommensurability and multi-paradigm approach to choose, will have an important influence on the theory building process and on the outcome of the niche theory itself.

The emphasis on the fact that scientists spend the majority of their academic careers in teacher student relationships be it as a student or a teacher, is much stronger within a school of thought than within a paradigm. The social and familiar aspects of theory building are being put at the forefront much more than with the paradigm, where the emphasis lies much more in the acceptance of the same scientific beliefs, theories and methods.[442]Although the social aspect is being emphasized much more lately, in regards to the paradigm. The other significant difference between the school of thought and a paradigm is in the fragmentation and scope of the scientific disciplines. This means that scientific disciplines such as biology, economics and physics where one paradigm dominates the field are much different than disciplines such as organization and business sciences, where the field is much more fragmented. This means that although several paradigms can be identified in these fields, a school of thought would still provide a more general orientation point of the discipline.[443]

[442] Cf. Wolf (2008), p. 31f; Dorow/Blazejewski (2006), p. 199.
[443] Cf. Ofori-Dankwa/Julian (2005), p. 1309.

Paradigm	Year	Founder
Context determinism paradigm	-	Early situational theorists
Hard-factors-paradigm	-	Strategy structure scientists
Structure-paradigm	-	Older organization theory
Hierarchical paradigm	-	Older organization theory
Market paradigm	-	Newer organization theory
Universalist paradigm	1911	Taylor
Prescriptive decision theory	1921	Knight
Functionalistic paradigm	1937	Parsons
Shareholder concept	1951	Gutenberg
Functional area analysis paradigm	1955	Koontz/O'Donnell
Structure-conduct-performance paradigm	1956	Bain
Resource-conduct-performance paradigm	1957	Penrose
Descriptive decision theory	1958	March/Simon
Situational paradigm	1961	Burns/Stalker
Structure-follows-strategy-paradigm	1962	Chandler
Stakeholder concept	1963	Cyert/March
Proactive paradigm	1972	Child
Brevity-Variety-Fragmentation paradigm	1973	Mintzberg
Strategy-follows-structure-paradigm	1974	Rumelt
Soft-factors-paradigm	1981	Pascal/Athos
Interpretational paradigm	1983	Smircich
Process-Paradigm	1990	Hammer/Champy

Figure III-4: List of some of the main paradigms in business sciences
(Source: own interpretation)

In summary, a school of thought and a paradigm provide structure for a model or theory or a model or theory building process on a meta level. They provide already established guidelines and methods, which scientists incorporate in their research, and have enough scientific problems and questions in their respective field, to guarantee progress. These guidelines and methods were developed through research done by peers who belong to a certain school of thought or a paradigm. They can both be addressed as first orientation points, when choosing a field of study in a scientific discipline, in which to start the process of theory building.

The next point will offer a more basic view on theory and model building, where the focus will shift from the meta level towards the building blocks and their influence on the model building process.

(2) Hypotheses, Axioms and Theorems

The second point will focus on the understanding of hypotheses, axioms and theorems. Main emphasis will be placed on hypotheses as they will be significantly more important for the model construction as axioms and theorems. This point will provide answers to what are hypotheses, which requirements they must meet, how they are constructed, which different types of hypotheses there are and how they are formulated. Lastly the relationships between hypotheses axioms and theorems will be examined.

Hypotheses are widely underestimated in our everyday life. People are constantly confronted with hypotheses; they can be seen in the character of assumptions that causes them. It is always necessary to hypothetically forecast reality to a certain degree. This forecasting may be done subconsciously in daily routines. It is therefore the role of science to identify and research this hypothesis (in a broader sense). The hypothesis plays an integral role in research and science, and is typically one of the basic principles of research, which can suggest new experiments and observations. It describes what we are looking for. They are not essential parts of a scientific project but rather induce distinctiveness and focus into it.[444] Plato labeled all scientific knowledge hypothetical, by which he meant that it was built on assumptions, which can be confirmed or rejected by firsthand experience.[445] Hypotheses build relationships between two or more variables. A hypothesis can be defined as:

A tentative statement that proposes a possible explanation to some phenomenon or event, whose validity is unknown and in the majority of cases states a relationship between two or more variables.[446]

The objective of a hypothesis is to offer explanations for the relationships between those variables that can be empirically tested. Furthermore, it provides the proof that the researcher has sufficient background knowledge to enable him to make suggestions in order to extend existing knowledge. It also gives direction to

[444] Cf. Kumar (2008), p. 73.
[445] Cf. Muirhead (1894 - 1895), p. 102.
[446] Cf. Kumar (2008), p. 74; Töpfer (2008), p. 146; Rao (1998), p. 55.

a research project and structures the next phase of the research and therefore provides continuity to the examination of the problem.[447]

Both a hypothesis and a problem contribute to the body of knowledge which supports or refutes an existing theory. A hypothesis differs from a problem. A problem is formulated in the form of a question; it serves as the basis or origin from which a hypothesis is derived. A hypothesis is a suggested solution to a problem. A problem (question) cannot be directly tested, whereas a hypothesis can be tested and verified. On the other hand, a hypothesis can also play a vital role in theory construction. However, sometimes the line between theory and hypothesis is not quite clear and confusion arises on what constitutes a theory and what constitutes a hypothesis. The main difference is in the complexity, abstraction level, and the number of variables where theories tend to dominate. The hypothesis on the other hand, involves more real live situations, less complexity and a limited number of variables.[448]

Hypotheses can also be labeled as general statements without limitations in regards to space and time. The area of application of a hypothesis is expanded if it is empirically confirmed in reality, or narrowed if it is falsified. There are different characteristics or requirements which a hypothesis must meet:

- A hypothesis should be *verifiable*. Simply put, there has to be an available method or technique which enables the verification of a hypothesis. Otherwise the formulation of a hypothesis is purposeless. However, there is an exception to this rule, if the research formulates a hypothesis for which there is no known method of verification, then additional techniques have to be developed in order to verify the hypothesis.[449]
- A hypothesis should be *functional*. This characteristic is closely related to the point about verifiability, emphasizing that it should be conveyed in such a way that it can also be measured. This means that a hypothesis cannot be tested, which leads to inconclusiveness of the statement, if this requirement is not met.[450]
- A hypothesis should be *specific*. This means that the activities and predictions stated in the hypothesis have to be expressed clearly and to the point. The mistake is often made that the hypothesis is conveyed in general terms and

[447] Cf. Kumar (2008), p. 75.
[448] Cf. Cooper/Schindler (2008), p. 68.
[449] Cf. Kumar (2008), p. 76.
[450] Cf. Kumar (2008), p. 76.

with great scope which does not increase its importance, but much rather makes it untestable. If a hypothesis cannot be made specific enough, it is better to divide it into sub-hypotheses, which can then clearly state the relationship between the sought data and the drawn implications.[451]

- A hypothesis must be *falsifiable*. What this means is that a hypothesis is deemed as a scientific hypothesis if and only if it is empirically falsifiable. This requirement is fulfilled when there are conceivable empirical circumstances, which would refute the hypothesis. If that is not the case and a hypothesis is unfalsifiable, which means that the statements made in the hypothesis can occur in any way or form in the world, without somehow conflicting with the statement. Therefore, it is the aim of scientific laws or theories to provide us with assertions and conclusions on how the world really operates and disregarding the ways in which it does not, but potentially could. Leading to the conclusion that a scientific hypothesis has to be empirically testable.[452]
- A hypothesis must be *formulated in simple, understandable terms and conceptually clear*. A hypothesis cannot be constructed equivocally, because it will make its verification very difficult. It is very important that the definition and terminology that is used to construct the hypothesis are commonly accepted and without one's own creations. Another requirement is that it is constructed in a way that it can only test one relationship at a time. A good hypothesis can be developed on the basis of pre-existing knowledge and diligent research in the field of interest, which then leads to a relatively simplified hypothesis construction.[453]
- A hypothesis should be in *continuation with the existing knowledge*. There is no clear requirement put on this statement but it is considered as an important part of scientific research, as it contributes to the growth of science. The core of the newly formulated hypothesis has to have its roots in the existing body of knowledge and thereby making an addition to it. The advantage of this approach is in the fact that if a hypothesis stems from a broader theory any

[451] Cf. Kumar (2008), p. 75.
[452] Cf. Chalmers (2006), p. 61ff. A scientific hypothesis does not mean that a hypothesis has to be accepted or confirmed by science, it is an attribute, which confirms that a hypothesis can be admitted to scientific testing procedures. The scientific hypothesis is closely related to the demarcation problem, which concerns itself with how and where to draw the lines around science.
[453] Cf. Kumar (2008), p. 75.

test against this hypothesis can be viewed as a test against the foundations of the broader theory.[454]

In summary, the main characteristics and requirements of a hypothesis can be summarized as: firstly, there is a given possibility for empirical testing, secondly, the hypothesis has to be conceptually clear, and thirdly, the meticulous and inherent relation towards theory should be given.

A hypothesis is usually formulated after the problem has been stated and the literature study has been concluded. It is created when the empirical and theoretical background of the problem has been completely enlightened. Although there is no distinct method for hypothesis creation, which is why a hypothesis is often referred to as an educated guess, there are some aids which assist in the creation process. This can be done with the assistance of simple enumeration, the method of conformity, analogy or associated differentiation, which will then help shape the core of the hypothesis.[455]

The process of hypothesis creation in science can be divided into a discovery and a justification context. Hypotheses are constructed in the discovery phase whereas they are empirically tested in the justification phase.[456] Hypotheses can be classified in terms of their derivation and in terms of their formulation. The derivational categories which include deduction, induction, abduction, and hermeneutics, will be the focus of the following four paragraphs.

Deduction is by definition applying general knowledge to a specific situation, hence going from the general to the specific. It is often treated as the only legitimate form of inference for a respectable science. Spangler defines deduction as:

"(…) the human process of going from one thing to another, i.e., of moving from the known to the unknown (…). Utilizing what he knows, the human being is able to move to what he doesn't see directly. In other words, the rational person by means of what he already knows is able to go beyond his immediate perception and solve very obscure problems. This is the nature of the reasoning process: to go from the known to the unknown." (Spangler (1986), p. 101)

The objective of deduction is to derive the hypothesis out of the existing body of theory, which requires an extensive literature review. As stated in the definition from Spangler, this method of hypothesis construction is a step by step process,

[454] Cf. Kumar (2008), p. 76.
[455] Cf. Mouton/Marais (1990), p . 134f.
[456] Cf. Kornmeier (2007), p. 77ff.

where the conclusions rest upon previously known facts. The deductive hypothesis makes a conclusion about a group of things, where one specific example is then given. The hypothesis constructed by this process can be seen as a valid form of scientific proof. The validity of a deductive hypothesis is mainly compromised if the premises of the hypothesis are incorrect. This is one of the most important steps because if the premises are wrong, the foundations on which the hypothesis stands are incorrect. Every conclusion drawn on the basis of this premises can be incorrect and unreliable. The most important issue with deductive hypothesis building is that all premises have to be true and each step of the process must logically follow the previous one.[457]

Induction is the opposite of deduction; it builds general knowledge from particular situations, thus going from the particular to the general. Induction creates a hypothesis through experience.[458] Johnson-Larird and Byrne define induction on the basis of the following example:

"(…) a process whereby from sensible singulars, perceived by the senses, one arrives at universal concepts and principles held by the intellect. Thus, from the sense experience of even a single yellow tulip, the intellect grasps that it is a special kind, a kind found in every single tulip. The person proves not only that he sees the tulip but also that he knows what kind of thing the tulip is by the following. He is able to point out all the others of the same kind. If the individual did not know the essence or whatness existing in each tulip, he could not group them together." (Johnson-Laird/Byrne (1991), p. 16)

According to this illustrative definition an inductive hypothesis would then represent an argument in which the premises claim to support the conclusion in such a way that if the premises are assumed to be true then based on that assumption it is probable that the conclusion is true.[459] Some general characteristics of inductive hypotheses are that they do not necessarily preserve the truth, and often use specific cases to formulate general principles as can be seen from the definition above. Another characteristic is that the basic premises already provide some support for the conclusion.[460] The problem of induction stems from the fact that it uses sets of observations to arrive at conclusions, the method by which proof is collected is not

[457] Cf. Canfield/Lehrer (1961), p. 205; Ackermann (1965), p. 155; Dietl (1968), p. 172.
[458] Cf. Burks (1946), p. 301.
[459] Cf. Moggridge (1992), p. 156f; Poincaré/Larmor (1952), 13.
[460] Cf. Harris (2002, 1970), p. 32f; Poletiek (2001), p. 17.

valid in itself. In reference to the Johnson-Larird and Byrne definition, an observation of a number of situations in which a certain pattern or event is upheld, does not guarantee that this pattern or event is valid in all situations. Nonetheless a hypothesis that is based on induction can lead to a more diligent study of a pattern or an event. In conclusion, induction cannot be used to provide proof as its value lies in the fact that it enables the grouping of real life phenomena.[461]

Abduction is a form of reasoning, which goes form general to the particular, with the exploitation of knowledge in order to give the best possible explanation for a particular situation.[462] Hence, abductive reasoning is a method of reasoning where the hypothesis is selected, which would, if true, best explain the relevant evidence. Abductive reasoning starts from a set of accepted facts and infers their most likely, or best, explanations. This method is often used to create a new hypothesis.[463] In conclusion, summarizing the positivistic research hypothesis, deduction proves to us that something has to be, induction shows if something actually is, and abduction suggests that something simply may be.[464]

Hermeneutics is the interpretation and understanding of the researched phenomena.[465] It was developed in business and organizational sciences as an answer to the positivist research tradition, where knowledge is produced through quantitative and qualitative approaches. The interest in interpretative research in business and organizational studies has increasingly grown in the last couple of decades. The main reason for this rise to prominence can be found in the fact that the disenchantment with the positivistic research and the methods by which knowledge is produced. This is mainly due to the epistemological limitations of the positivist approach.[466] Hermeneutic hypothesis places concepts in dialogue with one another and to look for deeper meaning through exploring their relationships to each other. It involves the comparative study of various sources of origin the researched phenomena. Statements and their meaning are observed within their context. This contextuality is the assumption that the details can only be understood if the whole is

[461] Cf. Swann (1988), p. 369.
[462] Cf. Psillos (1996), p. 32.
[463] Cf. Burks (1946), p. 303.
[464] Cf. Paavola (2006), 32ff.
[465] Hermeneutic has a long history that dates back to ancient Greece, where Hermes was known as the Greek god of communication. It is usually defined as the theory and practice of interpretation. The traditional Hermeneutics involve the quest for meaning in/ and between various contexts including texts, stories people tell about themselves. Cf. Gallagher (2004), p. 162f.
[466] Sandberg (2005), p. 41; v. Zweck et al. (2008), p. 118f.

understood and the other way around.[467] In the field of business sciences, the contents of hermeneutics have advanced from simple research that interprets texts and other documents concerning the organization, to general research on an organization and all of its attributes and other economic phenomena. Exploring topics such as corporate strategy, motivation, leadership, technological change on both micro and macro levels, instead of plain corporate documents. Hypotheses in business sciences that originate from a hermeneutical background have to be especially aware of the context and historical background of the researched phenomena and have a distinct capability for self reflection and auto critique.[468] The formulation has three types of hypotheses:

- *Research hypothesis* is a complete, specific, testable statement which, when verified, will generate knowledge relevant to the problem area being investigated. It makes a claim or predicts a relationship, difference or cause between two or more phenomena. It also represents a predictive statement, which is capable of being tested by scientific methods that relates an independent variable to some dependent variable. A research hypothesis may exist as a general claim or as a directional claim.[469]
- *Null hypothesis* is the simplest hypothesis form, which states that there is no real difference in the sample and it is formulated for the purpose of rejecting or nullifying it.[470] In tests of statistical hypotheses it is conventional to focus attention on the more serious of the possible errors, and to arrange things so that the more serious error is equivalent to "rejecting the hypothesis when it is true." In a broad sense, one can accomplish this by studying the matters of interest, identifying the more serious of the two errors and then wording or re-wording the hypothesis in such a way that the more serious error occurs when the decision is to believe that the hypothesis is false even though in reality the hypothesis, as stated, is true. So stated, the hypothesis is called the "null hypothesis." The phrase "null hypothesis" should be taken as an abbreviation for "the hypothesis being tested" (given the arrangement just described as to hypothesis and more serious error), and it should be noted that null hypotheses are not necessarily stated in negative terms.[471]

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[467] Cf. Arnold/Fischer (1994), p. 55f.
[468] Cf. Prasad (2002), p. 29.
[469] Cf. Vogt (2005), p. 276.
[470] Cf. McKillup (2007), p. 12.
[471] Cf. Rees (2001), p. 141; Poletiek (2001), p. 32f.

- A *statistical hypothesis* is either a statement about the value of a population parameter (e.g., mean, median, mode, variance, standard deviation, proportion, total), or a statement about the kind of probability distribution that a certain variable obeys. In more technical statistical terms a statistical hypothesis that specifies a single value for a population parameter is called a simple hypothesis; every statistical hypothesis that is not simple is called composite. Statistical hypotheses are statements about real relationships; and like all hypotheses, statistical hypotheses may match the reality or they may fail to do so. Statistical hypotheses have the special characteristic in that one ordinarily attempts to test them (i.e., to reach a decision about whether or not one believes the statement is correct, in the sense of corresponding to the reality) by observing facts relevant to the hypothesis in a sample. This procedure, of course, introduces the difficulty that the sample may or may not represent the population from which it was drawn well.[472]

Hypothesis formulation is a necessity in the process of s research, because it makes the scientific investigation easier, if it is constructed according to the methods described above.

It is the last step in the hypothesis formulation process. Although making observations is an important part of the scientific process, scientists also focus on asking questions of causality, that is, questions that address why the observed patterns exist. Attempting to answer "why" questions is referred to as hypothesis testing (hypothesis testing in turn is commonly referred to as using the "scientific method"). Hypothesis testing is simply an extension of our everyday use of inductive reasoning to come up with explanations for patterns as well as the deductive reasoning that helps us come up with predictions that if true, support our explanations. Due to the potential to elucidate causality, hypothesis testing is a powerful tool in science.[473]

The next two concepts are closely related to some of the characteristics of hypothesis. The first one that will be highlighted is the axiom and the second one is a theorem.

To understand the definition of an axiom, one has to take a step back and define what proof and proposition are. Proof can be defined as a method which objective is to ascertain the truth. Formal proof of a proposition is a chain of logical

[472] Cf. Rothman et al. (2008), p. 156; Ford (2002), p. 226f.
[473] Gatti (2005), p. 223f; Blaikie (2003), p. 178.

deductions leading to the proposition from a base set of axioms. There are three key ideas in the definition of proposition, logical deduction, and axiom. A proposition is a statement that is either true or false. An axiom is a proposition that is assumed to be true. There are two basic properties that one would want in any set of axioms; they should be consistent and complete. A set of axioms is consistent if no proposition can be proven to be both true and false. This is an absolute must. One would not want to spend years proving a proposition true only to have it proven false the next day. Proofs would become meaningless if axioms were inconsistent. A set of axioms is complete if it can be used to prove or disprove every proposition. Completeness is an attractive property; we would like to believe that any proposition could be proven or disproven with sufficient work and insight.[474]

Theorems are statements that are deducted from axioms. According to the level, there can be a distinction made between two types of theorems; those of middle level, which are deducted straight from axioms and those of lower level, which come from the middle level theorems. As opposed to a single isolated hypothesis, a theorem is better supported by an entire system of proven theorems and axioms, and for this reason theorems are considered more reliable than a hypothesis.[475]

The rules and procedures in this point on construction of hypothesis, axioms and theorems, will serve as a methodological basis in the second part of this chapter, where the market niche model in strategic management will be developed. The next point will focus theory and postulates.

(3) Theory and postulates

The last part of the definitions will be centered on theory and the rules that they have to oblige in order to be deemed scientifically acceptable. Following the structure of previously defined terms, the first question answered will be what is a theory and how is it applied and what is its role in sciences. The second question will provide answers to the postulates which a theory must adhere and how they are constructed.

A theory can be defined as:

"(…) a set of systematically interrelated concepts, definitions, and proposition that are advanced to explain and predict phenomena (facts). In this sense, we have many theories and use them continually to explain or predict what goes on

[474] Cf. Schanz (1988), p. 30.
[475] Cf. Schanz (1988), p. 30f.

around us. To the degree that our theories are sound and fit the situation, we are successful in our explanations and predictions."(Cooper/Schindler (2008), p. 69).

According to the definition above, theory is a means to an end. It represents a subject matter or an abstraction of reality which is meant to support the comprehension and decision making process regarding specific phenomena. This is a general explanation of what a theory is, but it does not answer the question what theories are used for or what their purpose is. Four different general categories can be identified that describe the purpose of theories: *explanation and model construction, forecasting*, *technological use*, and *critical assessment*.[476] In the following there will be a short summary of each category in order to understand the demands and roles of each of them.

Firstly, the explanation and model construction will be highlighted. The main objective of the explanation is to determine the cause and answer the "why" questions. Explanatory model buildings are used to illustrate reality with specific generalized phenomena. The purpose is not in the exact reflection of reality, but rather in the construction of the most typical situations where the specifics of the individual situations are abstract. These models can be seen as general patterns of interpretation and can be used to explain the special characteristics of individual cases.[477]

Forecasting represents a bridge between science and practice; it represents a challenge for business sciences, whereby theories are often concerned with planning the future. Theoretical statements are interesting tools for forecasting because they can eliminate certain circumstances based on their empirical content. Therefore the statements of a theory carry a higher information value if the possibilities that are compatible with the statement are scarce. Forecasting, typically applies a general theoretical framework because of their high level of abstraction; the special criteria of individual cases is only used when specific situations are applied.[478]

Technological use regarding theories is different than the everyday use of the word. The technology in the theoretical sense is a system of statements and the application of these statements is the technique. The necessity for the technology

[476] Cf. Schanz (1988), p. 56. According to the objective of the thesis, the appropriate category will be selected for this thesis.
[477] Cf. Sternberg (1998), p. 156.
[478] Cf. Rescher (1998), p. 3f; Hendry (2001), p. 17.

stems from the fact that theories have to be transformed before their practical relevance becomes obvious. Therefore, they have to be transformed into their technological form.[479]

The use of theories for critical assessment can be separated in a socially critical and an ideological component. The socially critical component effectively assesses and criticizes the circumstances and consequences of empirical objectives, the system of values and general social relations. Ideological criticism on the other hand is used to dismantle diverse prejudice. The information derived from critical assessment has a much higher information value, which is due to their higher significance as compared to noncommittal formulations.[480]

A postulate (also sometimes called an axiom) is a statement that is agreed by everyone to be obvious and correct. This is useful for creating proofs in mathematics and science and postulates are often the basic truth of a much larger theory or law.

The *consistency postulate* demands that the axioms and systems of statements have to be free of contradictoriness. This postulate is important because even in a contradictory system of statements it can be deducted even further, which would lead to false conclusions. As a result, special attention has to be paid on the one side, where this concerns the axiom or axioms used in the system of statements and on the other side the statements which are deducted from these axioms.[481]

The *economical postulate* is related to the hierarchical arrangement of part-statements. It postulates an economical use of higher level axioms and theorems. This means that a good theory is based on a very small number of axioms; it should therefore have the objective to use as few axioms as possible. As can be concluded from the definition in the previous sub-chapter, axioms are only propositions that are assumed to be true. Their excessive use in theory building would lead to an unfounded and ideological system of statements; therefore one should not use many axioms and theorems in the process of theory building. A good theory is built upon a number of proven statements and few axioms, to have ensured that the theory is consistent within.[482]

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[479] Cf. Halloun (2006), p. 30.
[480] Cf. Sabia (1983), p. 3ff.
[481] Cf. Schanz (1988), p. 31.
[482] It is important to know that sciences are based on axioms, this not only holds true for business and social sciences but also for proof based sciences such as biology, physics and mathematics.

The *integrity postulate* makes a demand on theories to be more than simply porous explanation outlines. This postulate is very difficult to realize in practice, because of the call for the inclusion of affecting and affected variables into the theory. The difficulty comes from the scope of the research field and the volume of variables that have to be included, which makes it nearly impossible to include everything in the scope of research. Therefore, theories are usually partial explanations of the field of study. The implementation of the economical and integrity postulate is very problematic and is therefore only used with several limitations as requirements of a theory.[483]

The *independency postulate* is closely tied to the economical postulate, more specifically in a situation when a theory uses more than one axiom. It stipulates that if a theory has more than one axiom, they have to be independent from each other with regards to their content. This postulate has been instituted for two reasons, firstly the theory should not be completely one-sided and secondly if one of the axioms is taken away the validity of the whole theory could be jeopardized.[484]

The *universality postulate* is another postulate that is difficult to transfer into practice one to one. According to this postulate the constructed theory should include the widest possible number of examples in the field of study. The lower the number of exceptions, and the higher the number of examples that confirm the theory, the more chances it will lead to a higher universality of the theory and higher compliance with this postulate.[485]

Following the universality postulate, is the *accuracy and assertiveness postulate*, which demands as many details as possible about the consequences of actions that a theory provides. According to this postulate, it is of vital importance to describe what the result of certain actions will be with the highest possible level of detail. This postulate along with the universality postulate constitutes the information content of theories. The complete comprehension of these two postulates would represent a perfect theory, which means that there would be no need for further explanation of the occurrences within the researched phenomena. This is almost impossible to achieve and therefore the higher the universality and accuracy and assertiveness of the theory the better are the chances for higher acceptance of the theory.[486]

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[483] Cf. Schanz (1988), p. 31.
[484] Cf. Schanz (1988), p. 31.
[485] Cf. Schlick/Mulder, p. 86 ff.
[486] Cf. Clark et al. (1991), p. 125f.

The postulate of a small logical margin requires that the developed theory rejects the highest possible number of examples. It is the task of this postulate to determine what number of possible examples can be eliminated through the statements brought forward by the developed theory.[487]

In reference to Popper, the falsifiability postulate is also one of the quality criteria regarding theory construction. The falsifiability of statements within a theory stipulates that the constructs and variables within these statements have to be operationalized and the type of the relationship clearly specified. It is because of this reason that the falsification of a theory does not have to prove the theory, but rather has to achieve consensus among the members of the specific scientific community concerned with the research field.[488]

Law-dutiful postulate sets the perquisite that a theory should include in deterministically deducted statements. The "then" component of the statements should be included every time the "when" component is applied.

The elements described above are the integral part of any model or theoretical construct and the methods and rules which they postulate will be included into the model construction in the second chapter of the third part. After defining these basic elements the focus will now turn to the basic premises for the model construction.

III.1.2 Basic premises for model and theory construction in management sciences

Now that the basic understanding and definitions regarding model and theory have been established, attention will turn to model construction. More specifically, the objective of this sub-chapter will be to create the premises, steps, and methodological building blocks. The defined approach in this sub-chapter will be followed in the second chapter of the third part, where the content and core of the market niche model framework will be constructed.

Most models and theories that one encounters through the study or research process are not vast superordinate intellectual concepts. The majority of theories

[487] Cf. Keita (1992), p. 112.

[488] To avoid any misunderstanding, the falsifiability postulate is not to be understood in the same line as falsification of a hypothesis. A demand for falsification of theories would be pointless as it would imply that a refuted theory is a good theory. Cf. Popper (2002), p. 68ff.

are specific systems of statements focused on a scientific field of research. Therefore the basic premises for model and theory building in business sciences will be examined and build in the model construction of this thesis.

(1) Premises for model and theory building in business sciences

The premises for model and theory building are not exact rules by which theory building is conducted but rather a decision on "the way to go". After inspecting the various possibilities that these premises allow, a decision will be made on what premises this thesis will follow based on the objectives of the thesis.

Model and theory building in business sciences is based on two basic premises, which are interrelated and built on one another. These premises then lead to two different possibilities of derivation. The first question answered will be what is the basis of these two premises and how they are related. The second question will answer which are the two forms of theory derivation and which are the sub-forms and how they achieve theory derivation.

The first premise of model and theory building sets the assumption that the complex world is somehow classified. This means that there are various regularities, recurring relationships between different variables, patterns and analogies that can be found in actual phenomena. These events are caused by the complexities of the multiple causalities found in the real world. If the assumptions above would not hold true, then all superordinate statements would be rendered useless as there would be no relationships and connections between events in the real world.[489]

The second premise builds on the key assumption of the first premise. It states that it is possible to approximate real phenomena with the use of coherent logical arguments. However, the premise does not imply that the behavior that causes this phenomenon has to be rational, instead there only has to be the potential to intellectually comprehend this phenomenon. Whereby, according to the two basic premises described above, model and theory building substantiates itself to a core objective of identification of regularities in reality.[490]

Following these premises, one can now make two additional distinctions based on the method of derivation of theory construction; the first one is *theoreti-*

[489] This premise is based on theory building concerned with actual phenomena. Cf. Wolf (2008), p. 34.
[490] Cf. Wolf (2008), p. 34.

cally-intellectual oriented and the second one *empirically* oriented. The mutual aspect of all theoretically-intellectual methods of theory derivation is the fact that there is no direct contact with the field of research. This is based on the presumption that the hypothesis constructed on the foundation of the perception of the senses can be flawed and ambiguous. Therefore, theories and hypotheses have to be developed on the basis of logical conclusions. There are three different theoretically-intellectual methods, which can be distinctively separated from each other:[491]

- *Deduction from superordinate theories*. The first method is the deduction from superordinate theories which draws on general theories and applies them to the specific field of research in the form of analogies. The objective is to identify parts of the research field in the superordinate theories and then try to specify the statements of the superordinate theory and apply them to the research field.
- Following superordinate theories is the *unproven speculation*, where the objective is to find new relationships between things and find out what the interplay is between these two objects of analysis.[492]
- The final theoretically-intellectual oriented method is the *assembly of individual references.* This method uses the existing literature to find partial statements from which new theory can be developed.[493]

After going through the theoretically-intellectual methods, the focus will turn to the empirically oriented methods, which are the opposite of the theoretically-intellectual methods. Empirically oriented methods can be summarized as the methods that seek to replicate reality. This is done with the process of induction, where facts are generalized and summarized in a theory. There are two distinct ways in which empirical research can be conducted:[494]

- the first one is by *doing empirical research*, and the second one by maintaining constant *contact with practice*. Theory building through empirical research is conducted through a sample of researched data from which a correlation between the data and the researched phenomena can be observed and generalized. This is usually done with carefully constructed hypotheses (see

[491] Cf. Lakatos et al. (1980), p. 106f; Hardy (1992), p. 241ff.
[492] It does not necessarily have to be a new type of relationship; one can also focus on the viewpoint of potential relationships that have been neglected thus far.
[493] This method can have both a theoretical and an empirical foundation.
[494] Cf. Kumar (2008), p. 8; Creswell (2006), p. 5f; Ghauri/Grønhaug (2005), p. 14ff; Ethridge (2004), p. 20f.

section III.1.1. Basic theoretical concepts and definitions, in the part which describes scientific hypothesis construction).

- Direct contact with practice or the field of research is done with a structured observation of reality and hereby looks for obvious relational patterns.

The theoretically-intellectual approach will be used for the purpose of this thesis as the theory building will be done by using the deductive approach. The applied method of theory building will therefore be the deduction from superordinate theories as they will build the basis for the niche theory. Empirical observations will only be included on the basis of previous research done in the field of strategic niche management. After deciding on the applied method to theory construction, the next step will be to determine the exact process or steps by which the theory will be constructed for theory building in business sciences.

(2) Steps in model and theory building in management sciences

There are two basic possibilities by which model and theory construction can be observed: the content and process standpoint. This section will analyze both of these steps and highlight its basic characteristics.

When analyzing models and theories from a content standpoint, one can determine five different steps on which they can be differentiated. These steps are on different levels of the complexity of the model and theory building, ranging from simple to very complex (see figure III-6).[495]

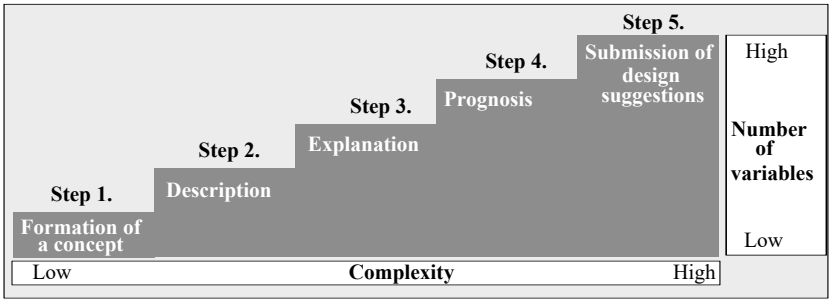

Figure III-6: Steps in theory building from a content standpoint
(Source: own interpretation after Wolf (2008), p. 8)

[495] It is also interesting that theories differ between American and European researchers. Whereas in the USA theories tend to be relatively compact with few constructs or variables, theories developed by European researchers tend to be comprehensive with many constructs and variables. Cf. Geddes (2003), p. 43ff.

The main characteristics of these five steps are: [496]

- The first step of theory building is the *formation of a concept*. This is based on the development of a system for a concept, which is clear and comprehensively covers the field of research. The identification of concepts is usually done with the identification of the characteristics which constitute the concept. The end result of a clearly defined concept is a detailed representation of the core of the researched phenomena or circumstances. The objective of theory building that focuses on the formation of concepts in the scope of scientific research, is the identification of founded coherent statements.
- Following the concept formation is the second step in theory building, namely the *description*. According to the understanding of description, the main purpose of scientific research is in the presentation of the situation or development of the clearly identified concepts that characterize the scientific phenomena. This presentation does not necessarily have to have a static nature, it can also show, how the observed phenomena changed over time. A descriptive theory building is especially useful with state-of-the-art scientific phenomena, because it is unclear in the early stages when the phenomena is introduced; If it should receive a high level of attention or not. Similarly to the concept formation, the description is also a low theory building level, because it does not create sustainable "when-then" statements.
- The next step which bridges this gap between is the *explanation*. One of the main difference between explanation and the previous two steps is in the fact, that explanation does not merely record the formation, changes and simultaneous development of variables. Explanation also looks for reasons for this occurrences with variables and defines the relationships between the examined dimensions. Theory building done by explanation is interesting only if the reason for the change or interrelation can be determined, everything else could be classified under statistical coincidence. One of the key characteristics of the explanational theory building is that it looks for explanations or reasons for things that have happened or are currently happening.
- *Prognosis* is the fourth step in theory building. As one can already gather form the word, prognosis is aimed at the future. The main question is which

[496] Cf. Wolf (2008), p. 8ff; Graumann (2004), p. 210f; Miles/Huberman (2006), 28f; Denzin (2005), p. 447f; Huber (1995), p. 79; Christensen/Raynor (2007), p. 12f; McInerney (2004), p. 92f.

developments are conceivable or probable. Prognostic statements are deducted on the basis of explanatory statements; this makes prognostic statements well founded.[497] These statements can be divided into two different ways by which they are deducted. Firstly, there is a clear understanding of how and why a certain parameter is affected by the shape of another parameter that happens before the parameter in question. Following this is the presumption that the relationship between the parameters in the future will remain the same and that the change in the parameter that sets into effect first, will have a certain influence on the prognosticating parameter. Secondly, the prognosis is based on the future shape of the parameter, which is based on the past developments of the parameter itself. Similarly to the first type the assumption is met, that if something had validity in the past it will also posses the same validity in the future. The difference between the two ways of deduction is that the first one is based on interrelation and the second one on trends. Prognostic theory building has a passive descriptive nature because it does not give any information on what can or should be done, so that the topic of research will change in one way or the other. It simply states why the topic of research will probably change in the future.

- The final step in theory building is the *submission of design suggestions*. The aim of this step is to provide solutions for problems in the selected field of research. As with all four previous steps, the fifth step also represents substantiated forms of statements, with the difference that the statements designed with this approach are not descriptive but have a rather prescriptive nature of statements. The design suggestions do not offer any universally valid suggestions and they rather clarify which measures are appropriate with certain objectives and which frameworks are suitable. This step has been very controversial in the scientific community for a very long time, as the preference has been to produce descriptive, explanatory and prognostic statements in theory building instead of design suggestions.

[497] If a prognosis would ignore this prior step of explanation and thereby neglect the reasons and causes, then the statement could no longer be considered a prognosis but rather a prophecy.

Besides the content standpoint, model and theory also have to be conceptualized from a process standpoint, which includes the various necessary properties for theory development. These steps are made of four key elements or questions, which define a model or a theory:[498]

- *What*. This element deals with the question of which factors should be included in the scope of the research, on the object of interest. The two limitations set are comprehensiveness and economical use of factors. Comprehensiveness is concerned with the inclusion of all factors which are relevant. Economical use on the other hand oversees if all included factors are really relevant for the scope of research and if some factors can be omitted as they are not of key importance for the research.
- *How*. Deals with the relationships between the identified factors and brings order to the conceptualization. These relationships are usually defined within the scope of the necessary cause and effect relationships between these factors.
- *Why*. The "why" explains the main reason for the research on a specific topic or event by substantiating the main assumptions of a theory. It is the coherence of the argumentation as to why the research is conducted, that is the main pillar behind the meaningfulness of the proposed conceptualization.
- *Who, where, and when*. These three perquisites provide limitations on the scope and reach of a theory. These factors which determine the context, place and time, draw the boundaries for the generalizability and thereby constitute the range of a model or theory.

These four elements are closely related and complement each other in the process of theory creation. The what (definitions) and the how (relationships), build the subject of the model or theory together, which serves as a framework for the interpretation of patterns or discrepancies. With the addition of the why element, a simple theory is created. What and how are descriptive elements and why on the other hand is an explanatory element; together these three elements descriptive and explanatory constitute a simple model or theory.[499]

[498] Cf. Whetten (1989), p. 490ff; Wacker (2008), p. 7.
[499] Cf. Whetten (1989), p. 491.

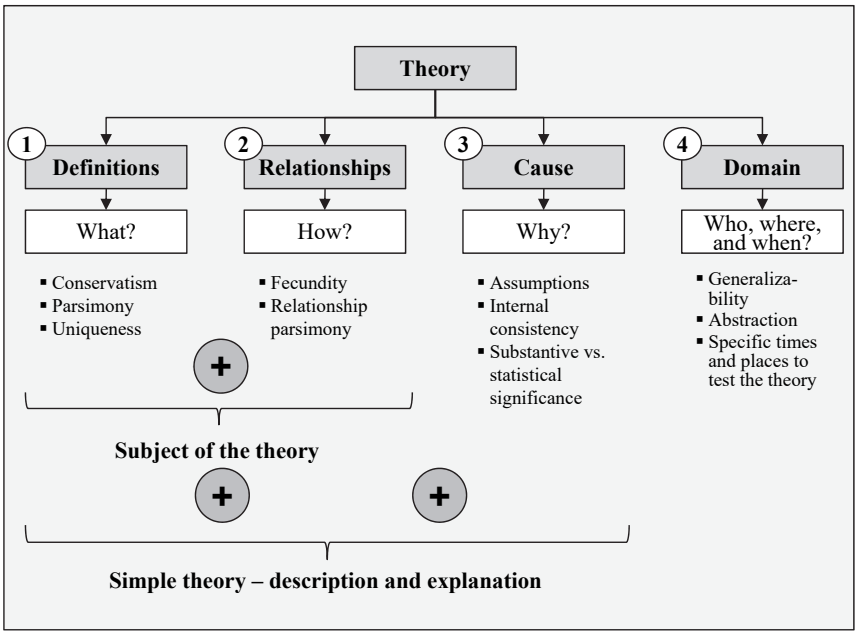

Figure III-7: Guidelines of a theory
(Source: own interpretation on the basis of Wacker (2008), p. 13)

There are many model definitions and it is therefore of vital importance that the required steps for theory development are precisely defined and followed in order to create a "good" model as framework for theory construction. These guidelines defined in this point will help with the fulfillment of the theoretical requirements to build a soundly founded model.[500]

(3) Conceptual framework for model and theory building in management sciences

The final point in of the basic premises for model and theory construction will explain the definition and role of the conceptual framework, how it is set up and applied in scientific research.

Model and theory building faces many challenges among which one of the most important ones is, when one is confronted with the analysis of the research

[500] Cf. Wacker (2008), p. 8.

question, which is more often than not multilayered, diverse and can have multiple interpretations. These features produce a complex network of cause-and-effect. Conceptual framework plays a vital role in the systematization, ordering and understanding of the field of research and its cause-and-effect characteristics. The conceptual framework is a graphic presentation or configuration of several theoretical constructs or variables or the statements that describe them. Additionally, it shows which relationships exist between these constructs, whereby it is important to point out that a conceptual framework does not explain the nature of the relationship itself, it only states that such a relationship exists.[501]

After defining the conceptual framework, the focus will turn to its setup. The framework in business sciences usually consists of three parts: design variables, context variables and success variables. The main characteristics and contents of these parts will be explained in the following. The design variables are the constructs, variables and indicators which represent the field of research. Context variables are the variables which influence the field of research directly or have to be taken into account when discussing the design variables.[502] Lastly, the success variables are process and output related performance indicators. The formation of the success variables is largely dependent on the formation of the design variables and the interaction between the context and design variables. The inclusion of the success variables in the conceptual framework is significant because if they were to be omitted from the research project the descriptive instances or unproven speculation would dominate.[503]

After defining the basic premises upon which the market niche model will be build upon, the focus will turn to the role of the model and theory in management sciences in the next sub chapter.

[501] Cf. Kaplan (1998), p. 59.

[502] During the course of the research process it is not always easy to draw a clear line between design and context variables. To separate these two categories of variables one must ask the question, how the variable impacts the field of research. If the impact is significant then it is a design variable, if it is only partial, then it can be attributed to the context variables.

[503] Cf. Wolf (2008), p. 37; Kirsch et al. (2007), p. 22f.

III.1.3 Model and theory in management sciences

After defining and assessing the basic theoretical concepts and setting the premises for the construction of a market niche model in strategic management, chapter III.1.3 will deal with the main critique points and drawbacks of model and theory construction in management sciences. As it was already pointed out several times in this thesis, there are a lot of misconceptions about models and theory or more specifically models and theory in management sciences. Therefore, this sub-chapter's focus will be to expose the most vital misconceptions in order to avoid them in the market niche model construction.

In order to achieve these objectives the scientific goals and approach in management sciences will be addressed in the following point.

(1) The scientific goals and approach in management sciences

The scientific objectives and approaches in management sciences differ greatly based on the type of research done or its purpose. Therefore before the focus can shift completely to the goals of business sciences, there first has to be a clarification if business sciences should be treated as part of the fundamental or pure sciences or as part of applied sciences.[504]

The perception of the majority is that business science is part of the applied science, meaning that its main objective is to provide solutions for problems in practice. Although this may be the predominant view, it did not remain without objections from the proponents of business science as pure science. Part of the problem stems from the different understanding of business sciences. Applied science sees the role of business science in providing support for decision making to the practice and orients itself on the strategy, trends and guidelines of the economy. On the other hand, formal science sees the role of business science in the ability to comprehend and explain the phenomena that occur in business sciences.[505] This thesis will take the corner of the applied science as the research topic comes from

[504] The objective of fundamental or pure science is the acquisition of knowledge and is used for the exact development of scientific theories. The research is done without regard for practical application. Applied science on the other hand has the practical application of knowledge at its core. It is viewed as the application of knowledge from one or more natural scientific fields to solve practical problems. Cf Raffée (1993), p. 15.

[505] Cf. Raffée (1993), p. 65.

practice and the developed theory will provide help for companies in implementing a niche strategy.

After defining the type of scientific approach the next point will deal with the issues and assessment which is critical for model and theory construction in management sciences.

(2) Issues and critical assessment of model and theory in management sciences

The final point of theory in business science will deal with its shortcomings, the reasons and implications of these shortcomings and ways with which they are dealt with in the process of business science theory building.

To understand the main criticism of theory in business sciences or looking more broadly in social sciences, one has to revert back to the definition of science. Science is the use of controlled methods to discover and understand how physical reality works.[506] Although this definition is clear and simple, it only works well for natural sciences. On the other hand, social sciences are often characterized as immature partially due to the shorter history of existence and partially due to the nature of the scientific phenomena they investigate.[507] From the viewpoint of natural science, all social sciences have justification deficiencies. These deficiencies can be traced back to a series of methodological problems of social sciences, which are hard to solve regardless of the progress made in scientific research methods. These problems are divided into three interrelated groups: [508]

- *The measurement or validity problem*. The measurement or validity problem mainly concerns itself with the question of validity of research in social sciences. It puts the validity of empirical research in social science into question, in the sense that social science phenomena are not capable of measuring, what it promises. This is evident when applying operational criteria, which measures change or progress in the company because the researcher is confined to the available organizational criteria, which may or may not measure what the researcher had in mind.
- *The problem of explanation.* This is mainly the consequence of the contradictory role of the universality postulate and the accuracy and assertiveness postulate. These two postulates build the information value of a theory. Although

[506] Cf. Hardy (1992), p. 4et seq.
[507] Cf. Smith (1998), p. 27f.
[508] Cf. Kirsch et al. (2007), p. 22f.

this is very difficult to achieve in practice since theory on the one hand is supposed to be universally valid and at the same time be very rich in content. This presents the problem, where it is difficult to maintain a balance between universality and the scope of empirical content. In most cases, social science theories are either universal statements, which are scarce in content or detailed and specific statements, which cannot be generalized.

- *The problem of values*. This deficit is mirrored in the fact that each researcher has their existing system of values and norms. These values and norms are a major influence on the angle from which the research subject is going to be considered. Therefore, the work of the researcher will reflect this valuation as a result of the subjective view in the field of research because of the affiliation with a certain school of thought or paradigm.

This concludes an analysis of the shortcomings of the model building and theory in management sciences and also the first chapter of the first part. This completes the theoretical framework, which is necessary for the market niche model construction. The defined theoretical conceptions will be applied in the market niche model and together with the necessary steps for model construction will form a comprehensive framework. In the second chapter, which represents the core of the thesis, a market niche model will be constructed along with the implications the model has for the construction of a strategic market niche management theory.

III.2 Market niche model in strategic management

After determining the steps and requirements for model building, the last chapter of the third part will focus on the core of this thesis – the creation of the market niche model for strategic management. For this purpose, the following chapter will be divided into three sub chapters: *III.2.1 Descriptive and explanatory elements of the market niche model*, *III.2.2 Limitations and reach of the market niche model*, and *III.2.3 Implications of the market niche model*.

> "Economic theory has suffered in the past from a failure to state clearly its assumptions. Economists in building up a theory have often omitted to examine the foundations on which it was erected. This examination is, however, essential not only to prevent the misunderstanding and needless controversy which arise from a lack of knowledge of the assumptions on which a theory is based, but also because of the extreme importance for economics of good

> judgment in choosing between rival sets of assumptions." (R. H. Coase (1937), p. 386)

This citation from Coase (1937) best describes the work done so far in the thesis. The first part has contributed to the clarification of the foundations of niche research and to clear any potential misunderstandings. The second part provided a sound methodological framework upon which the model can be based so that the assumptions which will be developed will have a good theoretical background. Activities such as abstracting, generalizing, relating, selecting, explaining, synthesizing and idealizing, were performed to give the clearest possible picture of the task at hand, before moving on to the actual process of model construction.[509] Part of the reason why such diligent work was invested into the foundations and methodological conception lies in the lack of consensus on what a model or theory actually is.[510]

Based on the insight gained on the process of model and theory construction in the first chapter of the third part, the following characteristics of the model and theory building will conceptualize the market niche model:

- Paradigm: the construction of the market niche model will employ the *dynamic capabilities* paradigm as the conceptual framework.
- Hypothesis: will be formulated in simple understandable terms, conceptually clear and will be derived with the use of *deductive* reasoning.
- Model: the model construction will apply the theoretically intellectual orientation, with the use of *deduction* from *superordinate theories and models*. From the content standpoint, the model will have a medium level of complexity and variables, using the method of *explanation*. Additionally, it will try to conform to the eight theory postulates to the largest possible extent.

[509] Cf. Weick (1995), p. 389.
[510] Cf. Sutton/Staw (1995), p. 371f.

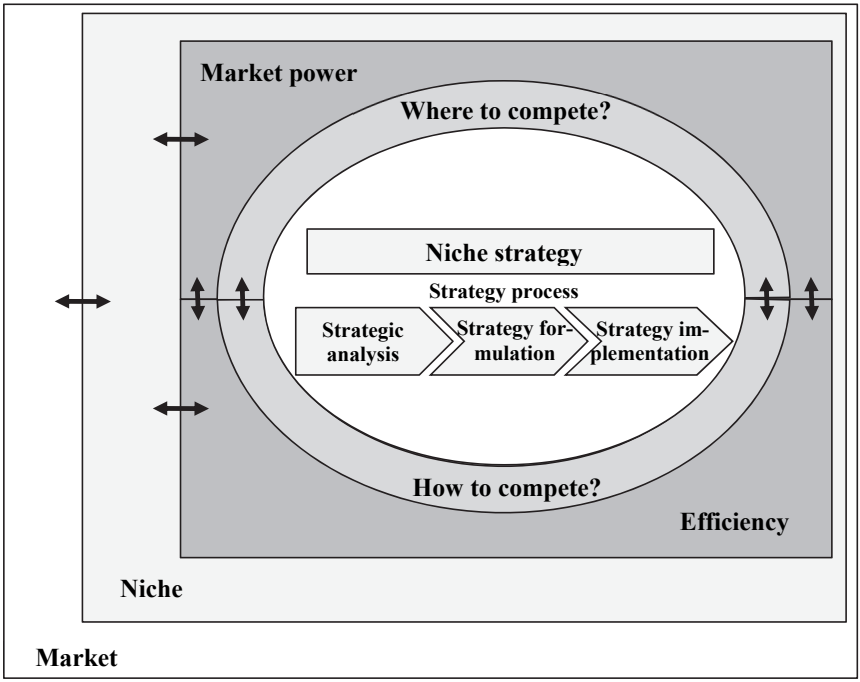

Figure III-8: Conceptual framework of the niche theory.
(Source: own interpretation)

Based on the characteristics described above, the market niche model will be constructed within the scope of the following conceptual framework (see figure III-8):

- Design variables: strategic management with its objectives, objects and structures presents the main design variable. Additionally, the dynamic capabilities are added as a framework upon which the model will be built. The objectives of strategic management determine the market position of a company and its resource configuration. The objects are used for the realization of the objectives, with the coordination of strategies, processes, and systems, in a way which is aligned with the company objectives. The strategy process then determines how these objectives and activities are realized. Dynamic capabilities provide an integrative perspective between the MBV and RBV and provide the action dimension to the static MBV and RBV.

- Context variables: the niche and niche strategy is at the center of attention of this research. The niche presents a specific market constellation within strategic management. The niche strategy is aimed at protecting the company against scale of other competitors, by determining where to compete, and focusing on satisfying unfulfilled demand, better satisfying existing demand or creating new demand altogether in determining how to compete in the market.
- Success variables: are the creation of competitive advantage, efficiency and market power. Competitive advantage is at the center of strategic management and is the focus of every company competing in the market. This competitive advantage is achieved as the interplay of the market - (market power) and resource-based (efficiency) capabilities of a company in a dynamic environmental setting. The fit between design and context variables, enables the creation of a competitive advantage for companies active in a niche. This competitive advantage is achieved through the execution of a niche strategy, by enabling higher efficiency and market power in the selected niche of a company.

The conceptual characteristics and framework will enable the rest of the chapter to develop a systematic handling of the research objectives. They will provide the baseline for the operationalization and comprehension of the constructs defined in the characteristics and framework.[511] The following sub-chapters will provide the content part to the developed framework, by firstly defining the descriptive and explanatory elements of the market niche model.

III.2.1 Descriptive and explanatory elements of the market niche model

The objective of this sub-chapter is to state the definitions, relationships and cause of the niche model. Answering the what and how questions will provide the subject of the model. Answering the why question, together with the subject of the model will outline the simple model, which will consist of the description and explanation. To achieve these objectives the sub-chapter will be structured in three points: *(1) Main definitions of the niche model, (2) Relationships between elements, and (3) Cause*.

[511] Cf. Wolf (2008), p. 41.

(1) Main definitions of the niche model

Main definitions of the niche theory will answer the what question, which refers to the definition of the factors, which are relevant for the research topic. This point is especially important as it sets the groundwork for the rest of the model. The main concepts have to be precisely and clearly defined in order to assure the conceptual consistency of the model.[512]

The first definition will define the academic field of strategic management in which the niche theory will be constructed. Strategic management, as already defined in sub-chapter I.2.1 are all key decisions on a current and planned initiative, which the managers of a company undertake on the owner's behalf. These decisions determine the ways in which the resources of a company are utilized in order to increase the performance of a company in regards to their external environments.[513] Based on this definition one can conclude that strategic management represents a superordinate perspective on decision making about the general development of the company, which will ensure the long term success of the company. This process includes both the internal and external company perspective.[514]

Following the definition of the academic discipline is the definition of the paradigm upon which the model will be based. Similarly to the definition of strategic management, the definition of dynamic capabilities will be based on the understanding defined in sub-chapter II.1.2. This definition states that dynamic capabilities are the unique capability of a company to integrate, build, and reconfigure its external and internal competences. This change is the response to the changing conditions in the company's environment. Thereby dynamic capabilities are the company's ability to achieve new and innovative forms of competitive advantage, which are limited by past decisions (which may or may not be relevant anymore) and market position.[515]

The niche is the main object of observation in this thesis. It is understood as a specialized market constellation that protects against scale, by satisfying unfulfilled demand, better satisfying existing demand or creating new demand altogether. This definition is partly based on the research done on the niche by Danner (2002) and own research on the niche subject.

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[512] Cf. Wacker (2008), p. 8.
[513] Cf. Rajiv Nag (2007),p. 944.
[514] Cf. Hungenberg (2000), p. 4ff.
[515] Cf. Teece et al. (1997), p. 516.

Based on this definition of the niche, the definition of a niche strategy was developed. Whereby the niche strategy represents a competitive strategy that determines where the company will compete and how it will utilize its resources, processes, and network relationships in order to achieve a competitive advantage in its niche.

These definitions present the basic framework of the model; however, additional definitions are required to place the niche theory in a competitive context. Therefore, three competition based definitions and three strategy level definitions will be provided. The competition based definitions are competitive advantage, market power and efficiency. The strategy level definitions are the market, corporate strategy and the business level strategy.

The understanding of competitive advantage will be based on Porter (2004), where:

> "Competitive advantage grows fundamentally out of value a firm is able to create for its buyers that exceeds the firm's cost of creating it. Value is what buyers are willing to pay, and superior value stems from offering lower prices than competitors for equivalent benefits or providing unique benefits than more than offset a higher price." (Porter (2004), p. 3)

Or more simply put, competitive advantage is a firm specific advantage, which a company develops in comparison to its competitors. This competitive advantage is then achieved with the successful implementation of the company's competitive strategy.[516]

In economic terms, market power is defined as power over price, meaning the ability of a company to maintain prices above competitive levels over a significant period of time. Market power determines the extent to which a company is able to influence the price of a product or service, by using its control over its demand or supply, or both.[517]

Efficiency is defined through the amount of output which is gained from a given input and is represented through a ratio of inputs and outputs. Efficiency refers to the internal view of the company and describes the internal functioning of the organization.[518] Inputs usually represent the tangible and intangible resources

[516] Cf. O'Donnell et al. (2002), p. 205; Walley/Des Thwaites (1996), p. 163.
[517] Cf. Boulding/Staelin (1990), p. 1160; Glick/Campbell (2007), p. 231; Zhiqi Chen 2008, p. 242.
[518] Cf. Davis/Peri (2002), p. 87f.

of a company, which enable the efficient production of the product or service which has value in the market.[519]

A precise definition of a market is very difficult to achieve because markets are complex multidimensional arenas of competition, which entail a number of different categories, segments and niches. Therefore, it is very difficult to clearly map out or border a market, as it is subject to constant change. As these borders and barriers are constantly changing, they create new opportunities and threats for new market positioning.[520] As one can gather from the outset of this problem, there is no clear market definition because there are always different viewpoints:

> "Market - (1) An aggregate composed of a prospective buyer (or buyers), and seller (or sellers) that brings to focus the conditions and forces which determine prices. (2) The aggregate demand of the potential buyers of a commodity or service. (3) The place in which buyers and sellers function." (Brand (1948), p. 209)

The definition of the market should be thus based on the context upon which it will be used. Therefore, for the purpose of this thesis a market will be defined by two factors; competition and demand. The competition side includes all companies which produce products which are important substitutes (product market) and the geographical market, that determines which geographical areas can this product be potentially sold in.[521] The demand side is represented by the elements related to the consumers needs and demands, which is represented by all potential buyers of the product or service.[522] After defining the main components of a market, it can be defined as the sum of all products, which are relative substitutes and satisfy a certain existing consumer demand for which potential customers are prepared to pay.

The niche strategy will also be distinct on a corporate and business unit level. A corporate level strategy determines the purpose and markets in which the company will be compete, and how its business unit will be managed. Corporate level strategy provides the answer to the question where the company will compete and

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[519] Cf. Hunt/Duhan (2002), p. 100.
[520] Cf. Day (1981), p. 298.
[521] The majority of research done on product and geographical markets is concluded usually within the scope of antitrust commissions, whose main purpose is to determine the extent of a company's power over price and output or its power to exclude markets. Cf. Hosken/Taylor (2004), p. 465; Harris/Jorde (1984), p. 4.
[522] Cf. Sissors (1966), p. 21.

it sets the course, objectives and means the company will apply to achieve its envisioned future position in the planned time frame.[523] On the other hand, the business level strategy deals with the objective to put the company in the position to achieve its corporate strategy. The business level strategy answers the question of how to compete. It is concerned with the achievement of its market objectives, by defining the product or service and technology, which will be offered to its target consumers in order to achieve a competitive advantage in the market.[524] If a company does not possess more than one business unit, the objectives of corporate strategy also become the objectives of the business unit, while still maintaining the difference that the corporate strategy determines where the company competes, and the business level strategy, how it competes.

After defining the main definitions, which concern the building of a niche model, the focus of the next point will be on the relationships between these defined elements.

(2) Relationships between elements

The relationships between the defined objects represent one of the key elements, which point out the nature and causality of these relationships. As already outlined in the conceptual framework (see figure III-8), which graphically outlines these relationships, their nature will be detailed in the following.

At the core is the strategy process which determines implications and outcomes of the niche strategy. The creation of a niche strategy is the result of the strategy process of strategic analysis, formulation and implementation. Strategy analysis first deals with the internal and external analysis of the company's environment. On the basis of the initial assessment of the internal and external environment, strategies are developed, evaluated and a decision is made on an appropriate strategy. After the determination and decision on the appropriate strategy is made, the strategy is implemented and its success evaluated.[525] The foundations of the relationship between the niche strategy and the strategy process are mainly established in the first two process steps; strategic analysis and formulation. The analysis of the internal and external environment determines the fit between company capa-

[523] Cf. Hinterhuber (1984), p. 132.
[524] Cf. Steinle (2005), p. 305.
[525] Cf. Hungenberg (2000), p. 9.

bilities and the shape of its external environment which leads to the strategy creation. This fit has to identify the relevant characteristics or conditions in order for the niche strategy to be a viable option. These characteristics mainly refer to the heterogeneous market structure, which leads to partly or unsatisfied demand and the internal competences of a company which enable the satisfaction of this demand.

This developed niche strategy of the company determines where and how the company will compete on two different levels: the corporate level and business level strategy. Corporate strategy determines the intention and the markets in which the company will compete and how it will manage its business units.[526] Hence, the result of the niche strategy at the corporate level is market power. This market power is not manifested as overall market power but rather as market power in a specific market segment, which lies in the nature of the niche. The realization of market power in a niche is crucial because it shields the company from its competitors in the mass market. The duration of market power is dependent upon how long the company is able to maintain its competitive advantage. The basis of the competitive advantage lies in the nature of the business level strategy, which determines how the company will compete. This becomes clear with the objective of the business level strategy, which is to be amongst the leading competitors in the market segment, in which the company is active.[527] How the company achieves its competitive advantage is the task of the company's internal resource configuration and competences, which lead to a higher efficiency. The unique constellation of this efficiency in the sense as understood by the RBV,[528] will determine, the level of difficulty for other competitors to copy the resource constellations and competences. These corporate and business level niche strategies complement each other in the sense that the corporate level strategy will determine in which market niches the company can achieve its corporate advantage and the business level strategy determines the source and duration of this competitive advantage.

The final relationship, which will be enlightened, is the relationship between the niche and the market. Before focusing on this relationship, it is important to clarify the difference between a niche and a market segment. The main difference

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[526] Cf. Steinle (2005), p. 304.

[527] Cf. Steinle (2005), p. 305; Hinterhuber (1984), p. 76.

[528] Meaning that the company's unique resources have to possess a certain value, are rare so that not all competitors can have access to them, are perfectly imitable, and there are few or no equivalent substitutes. Cf. Barney (1991), p. 106.

is that a market segment is defined more broadly than the niche. Where market segmentation is the process of breaking up a large market into smaller pieces, the niche only applies to a specific part of a market segment. The other difference is that the niche fulfills a specific need, whereas a market segment only points out a part of the market, which can be managed.[529] Similarly to the relationship between market power and efficiency, the relationship between the market and the niche can be viewed from two perspectives; top-down and bottom-up. The success of a strategy in large part depends on the correct definition of a market, which is in many cases not an easy task. The top-down perspective can be viewed as:

> "(…) a view of markets as arenas of profitable competition where the corporate resources can be used to achieve a differential advantage. These resources are usually supply factors: such as raw materials, production processes, and technologies, plus the base of experience gained in serving the present market." (Day (1981), p. 285)

And the bottom-up perspective as:

> "(…) positioning the company's offering and choosing target customer segments whose distinct patterns of needs dictate separate marketing programmes. The objectives of both segmentation and positioning are the same: to seek competitive advantage through doing a better job of satisfying customer requirements." (Day (1981), p. 286)

This would mean that markets are the places where competition takes place and the company's resources are profitably employed. In the case of this thesis the focus would be placed on the niche market from the top-down perspective. A market niche in which a company operates is occupied by customers, who have special requirements and needs regarding the products they purchase. This bottom-up approach sees the market as a changing pattern of consumer requirements and needs, which have different ways in which they can be met.[530] The top-down and bottom-up market definitions are complimentary as well; the top-down approach determines which cost advantages, competitor's weaknesses and new technologies can be exploited in the market niche and the bottom-up approach deals with the identification of unsatisfied consumer needs, changes in consumer needs and requirements and capabilities in the market niche.

[529] Cf. Dalgic/Leeuw (1994), p. 41f.
[530] Cf. Day (1981), p. 288.

The definition and relationships together provide the domain or the subject of the niche model. As one can gather from the relationships and definitions, the subject of the model is centered on the niche as a management system in the internal and external environment of a company. This management system focuses on the niche strategy as a specialized market constellation, in which the company outcompetes all other competitors in the market, with the coordinated effort of the internal and external competences of the company. The reasons for the main assumptions of the subject of the niche model will be the main focus of the following point.

(3) Cause

The cause or the why question will explain the reason and significance of the research subject with the creation of assumptions. The combination of cause together with the definitions and relationships provides the basis from which the basic propositions of the model can be tested. The definitions and relationships provide the description of the research objective and the cause provides the explanation.[531] This explanation will be done through the construction of a hypothesis, these will primarily be basic hypotheses, which explain the basic background of the niche phenomena with a more complex hypothesis coming in sub-chapter III.2.2.

H1: Heterogeneity of demand, industry consolidation and new technologies contribute to the creation of new market niches.

The underlying reason for the heterogeneity of demand, industry consolidation, and new technologies that lead to the creation of new niches is industry maturation.[532] As a result of industry maturity companies new market opportunities were becoming exhausted, which led to market consolidation, as companies were looking to increase their profits.[533] Another reason for the emergence of distinct market niches is the result of the different forms of heterogeneity of consumer preferences. These are the results of different consumer groups, which are heterogeneous in the benefits they seek from the product or services offered by the companies in the market.[534] The last factor which contributes to the creation of new market niches is technological development. The changed consumer preferences and heterogeneity

[531] Cf. Whetten (1989), p. 491.
[532] Cf. Agarwal/Audretsch (2001), p. 24f; Audretsch/Woolf (1986), p.46f.
[533] Cf. Deans et al. (2003), p. 2f; Kröger et al. (2006), 7f.
[534] Cf. Malerba et al. (2007a), p. 375; Allenby et al. (1998), p. 384.

have influenced the rate of innovation of companies. This has reduced the R&D cycles and increased the availability of products with different characteristics.[535]

H2: The market niche is a specialized market constellation that protects against scale.

This is the primary and the most basic proposition of the niche strategy. This understanding is partly consistent with the ecological understanding of the niche, where the niche represents an n-dimensional hyperspace in which a species can survive and out-compete all other species.[536] In most industries today, economies of scale provide a competitive advantage.[537] The build-up scale advantages leads to the rise of a selected number of large competitors which dominate the industry through the creation of market power.[538] This market power enables the market leaders which have economies of scale to earn higher profits, without the fear of an entry of new competitors.[539] The niche as a specialized market constellation places the focus on avoiding this mainstream competition, by finding new ways of overcoming resource deficiencies and scale barriers.[540] The objective of the company is to employ a niche strategy, which will enable it to be more successful in these market niches than any of its competitors, thereby ensuring the company protection against the scale advantages of larger mainstream competitors.

This realization leads to two additional basic hypotheses, which complement the first hypothesis in gaining a comprehensive understanding of the niche strategy.

H3: In order to avoid the scale based competition the niche strategy has to better satisfy existing, or satisfy unfulfilled demand or create new demand altogether, in its target niche.

The basic assumption behind this hypothesis is pretty simple; a company which employs a niche strategy faces less competition for its customers than its competitors.[541] A company active in the niche has generally two possibilities of

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[535] Cf. Adner/Levinthal (2001),p. 616; Agarwal/Bayus (2002), p. 1025.

[536] Cf. Grinnell (1928), p. 436; Vandermeer (1972), p. 107; Elton (2001), p. 63f.; Hutchinson (1944), p. 20.

[537] Cf. Porter (2004), p. 11.

[538] Cf. Dobrev et al. (2003), p. 233f.

[539] Cf. Nahata/Olson (1989), p. 236. This work on entry barriers was pioneered by Bain (1956), where he argued that a company has to have a large market presence and thus generate economies of scale and generate entry barriers for other competitors. Schmalensee (1981), p. 1228.

[540] Cf. Shelton (2005), p. 333.

[541] A company which takes after the strategy of the mass market, which includes many competitors and negatively affects the performance of the company. A company that

satisfying this "niche" demand; the first one involves the approach to identify demand gaps in the market and the second one focusing on the competences which the company has developed that better satisfy this demand. The first approach focuses on the market side where the company looks for partly or insufficiently satisfied demand. This demand gap is the result of market specific conditions, which are the result of low attractiveness of certain market segments. The unattractiveness of a market segment can be the result of remote geographical area or the fact that the mainstream market companies show little or no interest in satisfying certain market segments. Another reason for this gap on the market side is the changes in the consumer requirements or preferences, which create new or differentiated demand in the market.[542]

The second approach comes from the internal company perspective, where the company's capabilities are key for creating new market demand or satisfying existing demand. These capabilities include the creation and exploitation of new technologies, different cost advantages which the niche strategy can enable and the exploitation of the weaknesses of competitors. The creation and development of these capabilities enables the identification and handling of demand gaps, which these new capabilities create or shape. Additionally, this internal perspective also enables the creation of new demand for which there was previously no demand. These technology based niches will be detailed in sub-chapter III.2.2.[543]

H4: a niche strategy has to provide above average returns in comparison to the industry average in order for this strategy to be a viable option.

One of the primary objectives of a management strategy is to ensure the long-term success of the company. A strategy describes the ways and means with which the company will achieve this objective. Therefore, strategy can be seen as planned development or evolution of a company, as opposed to a random or unplanned development, which would take place, if there were no strategy, which the company would follow.[544]

The profitability of a company has usually been associated with market share; as a consequence companies with the largest market share were large companies,

looks for differentiation in order to reduce competition and increase its own performance will try to select a market position in a niche, which has a low of ineffectively satisfied demand. Cf. Deephouse (1999), p. 150f.

[542] Cf. Day (1981), p. 288.

[543] Cf. Day (1981), p. 288.

[544] Cf. Hungenberg (2000), p. 8.

which dominated the market.[545] If this claim would hold true, no other company except for market leaders would be able to achieve a profit in the market. However, numerous small companies or strategic business units of larger corporations are able to capture profits in the market without controlling a significant market share. These companies of SBU's were able to find niches, which build up barriers on the basis of which they were able to reverse or decrease the profitability advantage of larger companies on the basis of a large market share.[546] Therefore, a niche strategy has to enable the company or business unit to achieve higher rates of return in order for the strategy to be a viable option in the market. The intentional decision to focus on special market groups, thereby forgoing many scale based advantages which other companies posses, has to be compensated with a higher capability, which can be achieved in the selected niche.

These four basic hypotheses of the niche model along with the definitions and relationships between the main elements represent the simple niche model, which describes and explains the fundamentals of the niche model. The limitations and reach of the model in the next sub-chapter will build upon the simple niche model and expand it with additional and more complex hypotheses.

III.2.2 Limitations and reach of the market niche model

The limitations and the reach of the niche model will place boundaries on the propositions, which were generated in the simple niche model and put them in the perspective of time and context. The questions of who, where and when set the boundaries of the range of the model and thereby determined its scope of application.[547] This definition of the range and model limitations will be the focus of the following three points.

(1) Who does the model apply to?

The first point in determining the limitations and the range of the theory will be in determining the subjects to which this model applies to. In order to determine this limitation the following hypothesis will apply:

[545] Cf. Rumelt (1982), p. 368; Szymanski et al. (1993), p. 1.
[546] Cf. Bradburd/Ross (1989), p. 258.
[547] Cf. Whetten (1989), p. 492.

H5: Niches can be found at both the corporate and business unit level, meaning that company size is not the limiting factor, rather the strategic direction that is aligned on the niche.

This hypothesis states that the presumption that the niche strategy or the niche as a market constellation in general is associated with small companies is not valid. The decisive factor is the niche strategy and in what sense it is discussed; as a corporate strategy or as a business level strategy. The corporate level strategy concerns itself with the question of where to compete and it deploys the company's resources among the industries in which a company is active. This corporate level strategy incorporates primary activities, which determine the objective of long-term revenue and profitability growth.[548] The business level strategy on the other hand is concerned with the question of how to compete in a certain industry or product market segment. The unique competences or competitive advantage are the main elements, which a company employs at this strategic level.[549] These unique competences enable a company to achieve a superior level of performance than its competitors, whereby this superior performance is the result of resources of skills, which the competitors do not possess and can take on many different forms.[550]

Since the main research interest of this thesis is at the corporate level, the model will only include the niche strategy at the corporate level. This will also reduce some of the complexity in the model due to the exclusion of the niche as a business level strategy in a diversified company. This limitation puts forth the following hypothesis:

H5a: Companies, which pursue a niche strategy as a corporate level strategy, posses certain identifiable characteristics, which separate them from the rest of the industry. The extent and form of these characteristics is industry specific and has to be determined on a case by case basis.

Companies usually employ clear and distinctive corporate level strategies. This strategy places the competitive environment of a company into a single industry. However, many large multinational corporations or global leaders are actively present in several industries.[551] A niche strategy is a viable option for some of their

[548] The majority of the corporate level strategies are growth based strategies, except for those companies, which have reached a certain size and have to stabilize before they can grow any further, or companies in economic decline. Hitt/Ireland (1985), p. 794.
[549] Cf. Beard/Dess (1981a), p. 666f.
[550] Cf. Hitt/Ireland (1986), p. 402.
[551] Cf. Beard/Dess (1981a), p. 666.

business units. Unfortunately, the inclusion of these business units would exponentially increase the complexity of the model. It should therefore be noted at this point that the niche strategy of a multidivisional company structure is noted and recognized as a viable niche strategy, but will be left out of the further development of the model.

According to this restriction, the niche strategy of a company therefore incorporates both strategic aspects of where to compete and how to compete within the scope of the corporate strategy. The companies that will be the focus of the model display unique identifiable characteristics within their individual industries, which separate them from other industry competitors and the mass market. These characteristics are among others specialization, technology, service, quality, channel selection and so on.[552] One has to consider that these characteristics differ in importance and scope between industries. Industries are constructed on the basis of different factors e.g. production inputs, raw materials, demand and outputs, which are the result of these inputs. Therefore these niche companies have to be considered and identified according to the industry specific characteristics.

The defined limitation on the object of the model includes those companies for which the niche strategy represents the sole strategic direction on a corporate level. This is also supportec by certain identifiable characteristics which differentiate the company from the rest of the industry. The next point will focus on the question of where this object applies to.

(2) Where does the model apply?

Following the limitation on the "who" the model applies to, is the question of where this model can be applied. To determine the "where" component, the source of niche strategy creation will be observed from the internal and external company perspective:

H6: The niche strategy is the product of market (external) or resource (internal) based competences of a company.

The decision upon a niche strategy in most companies is based predominantly on the external environment of the company, although the importance of the internal company perspective should not be ignored because internal competences are harder to create.

[552] Cf. Varadarajan/Clark (1994), p. 95.

The niche strategy based on the market competences of the company is the result of the outside in perspective. This perspective focuses on three main elements of the niche strategy: market, consumer and geographical region. The outside-in perspective starts off by looking at the entire market and then focuses on specialized market segments in which it can prosper. The objective is to find a suitable niche somewhere within these three elements, which enables the company to gain a competitive advantage by better satisfying or understanding the needs in one or more of these niches.[553]

The inside-out perspective builds on the unique company internal capabilities and competences, which are the source of competitive advantage in the market.[554] As opposed to the outside-in perspective, the inside-out perspective places the focus on the company instead of the market. The objective of the niche strategy according to this perspective is to identify the unique market capabilities and competences and apply these competences in the market. An existing demand gap in the niche is identified, which these capabilities and competences satisfy better than the competition.[555]

Although the niche strategies created with the outside-in and inside-out perspective are applicable across industries, a differentiation between simple and complex industries should be made. This differentiation is shown in hypothesis H6a and H6b.

H6a: The niche strategies developed on the basis of the inside-out perspective are characteristic for dynamic technologically intensive industries.

The inside-out perspective is based on the internal functioning of the company. Its core is based on efficiency, which is the product of efficient use of the tangible and intangible resources of the company that leads to the creation of products or services, which have a market value and represent the company's source of competitive advantage.[556] The superior performance of the company is the result of the resources and capabilities which a company owns.[557] This efficiency is characterized by innovation and technological advancements, fundamental to the renewal of the

[553] Cf. Porter (2004), p. 234; Danner (2002), p.52.
[554] Cf. Barney (1991), p. 106.
[555] Cf. Teece et al. (1997), p. 514.
[556] Cf. Davis/Peri (2002), p. 87f; Hunt/Duhan (2002), p. 100.
[557] Cf. Shantanu Dutta (2005), p. 277.

organization and it represents a driving force behind the strategic change, which is conducted within the company.[558]

The inside out perspective views competition as a process rather than a top line view, which determines if optimal conditions are achieved in a static environmental setting. This process views the economic conditions affecting a certain industry in a constant state of disequilibrium or as dynamic. Market forces try to move towards the state of equilibrium but that state cannot be reached because of market imperfections, which influence the equilibrium. To understand the results and the outcome of the competitive process the analysis has to consider the environment in a dynamic setting.[559]

Consequently, the niche strategies, which are based on efficiency, are usually found in dynamic, technologically intensive industries, where the competitive advantage is not lasting and has to be constantly upgraded to accommodate the path dependencies and changing market conditions.[560]

The outside-in perspective displays exactly the opposite characteristics and can be conceptualized as:

H6b: The niche strategies developed on the basis of the outside-in perspective are characteristic for stable and technologically less-intensive industries.

The niche strategies which are based on market discontinuities are usually located in industries, which are not technologically intensive and where competitive advantage is the result of access to specific resources or customers or geographical regions. The outside-in perspective is based on Porters (1980) competitive advantage on the foundation of the typologies developed in the competitive forces, according to which the ease of entry is the primary of the five determinants of industry attractiveness.[561] The niche strategies which are developed according to this perspective are usually located in industries, where technology and innovation are not the decisive factors. These strategies are rather based on the diligent industry analysis, which enables the company to create a competitive advantage by shielding itself from the competition, by focusing on a market segment which has no or a low degree of existing competition.

Based on the inside-out and outside-in perspectives and the industry dynamic and technological intensity, the niche can be classified as a growth or defensive

[558] Cf. Ljungquist (2007), p. 393.
[559] Cf. McWilliams/Smart (1993), p. 70.
[560] Cf. Teece et al. (1997), p. 516.
[561] Cf. Porter (2004), p. 4f.

type strategy, based on the industry context, within which it is observed. Hypothesis 7 builds on the statements from hypothesis 6a and is defined as:

H7: The niche strategy is classified as a growth type strategy within the context of a dynamic and technologically intensive industry environment.

This hypothesis states that the niche strategies based on the inside-out perspective represent growth strategies in the market. These strategies are not concerned with the creation of entry barriers for other competitors but rather focus on achieving growth through own competences and capabilities, which enable the company to remain successful in the market despite the highly competitive and dynamic environmental setting.[562] Since the markets never reach equilibrium status and the competitors respond to the strategies and the creation of competitive advantage of companies, the industry keeps changing and evolving. In order to keep up the pace, the company employing a niche strategy has to continuously reconfigure and evolve its competences.[563] This can only be achieved with the application of a growth strategy, which is aggressive enough to enable the company to remain competitive in the long term.

The opposite of growth strategies are defensive strategies, which are found in the domain of the outside-in perspective and are defined in hypothesis H7a.

H7a: The niche is classified as a defensive type strategy within the context of a stable and technologically less-intensive industry environment.

The main objective of defensive strategies is the creation of entry barriers which prevent competitors from actively pursuing the same markets as the company in question, whereby the industry structure affects the sustainability of the performance of the companies, the positioning of the company and the ability to establish a competitive advantage over its competitors.[564] This advantage is the result of the effective deployment of resources and selecting market niches which shield the company.[565] On the basis of this advantage the company is able to exercise market power, which is the result of the company's abilities to defend itself against the competitive forces. The niche strategy according to this view is in the creation of

[562] Cf. Spanos/Lioukas (2001), p. 909.
[563] Cf. Malerba et al. (2007b), p. 372.
[564] Cf. Teece et al. (1997), p. 511.
[565] Cf. Day et al. (1987), p. 1537.

defenses against industry forces, which enable the company to find a defensive position.[566] These niche strategies are usually manifested in the form of regional, target group or product niche strategies.[567] These defensive strategies can be found in industries where innovation is not the key driver of industry development and the companies are therefore able to identify niches which shield them from competition without having a distinct competence based advantage, which would separate it from the rest of the industry.

This summarizes the who and where component of the model and to conclude the limitation and the reach of the model, the when component will be analyzed in the next point.

(3) When does the model apply?

The final component of the model will deal with the question of when this niche model can be applied. The following hypothesis describes the when component:
H8: A niche strategy is better suited for dynamic and changing environments than a generalist strategy.

This hypothesis states that the niche companies would outperform generalist companies in a dynamic and constantly changing market environment. This is due to the different characteristics of generalist and specialist strategies of companies. A generalist company maintains some level of excess capacity, which can be seen as a sort of insurance policy to make sure the company can maintain reliable performance, despite the change in its environment. Niche companies, which specialize, have a much lower requirement for excess capacity as their operations are focused on a narrow part of the market. In dynamic markets, where there is a lot of environmental change, the generalist companies require a lot of time to apply their structure to new environmental states. On the other hand, niche companies are much more flexible because they are smaller than generalists and they can adapt faster to different changes in the environment.[568] This means that a niche strategy is better suited for changing environmental conditions than a generalist strategy because of

[566] Cf. Spanos/Lioukas (2001), p. 909f.
[567] Product niches refer to those products, where their appeal is not based on their innovativeness but rather on the unique or special characteristics which separate them from the rest of the market.
[568] Cf. Hannan/Freeman (1977), p. 948ff; Swaminathan (1998), p. 390; Deephouse (1999), p. 151; Usher (1999), p. 144; Olav Sorenson (2006), p. 917.

the flexibility. In a dynamic market or industry environment, niche companies can respond faster to demand and other environmental fluctuations.[569]

Part of this reasoning is also due to the niche being a sort of sanctuary, where new technologies are able to develop without being threatened by the mainstream competition. Thus, when a company that follows a niche strategy introduces a new technology it usually does so by looking for market space, which is neglected or insufficiently served by the main market. Thus, a company can make two decisions after the technology has achieved a certain stage of maturity; either to remain and effectively dominate the niche or try to compete in the main market. If the latter choice is made, the niche strategy does not apply any more for this company.[570]

However, this hypothesis does not state that a niche strategy cannot be a viable or successful strategic option in stable market or industry environments. These companies can successfully occupy their market niches but face much more formidable competition from the generalists as their competitive advantage can be copied easier.[571]

This concludes the second part on the limitations and the reach of the niche model, where the questions who, where, and when this model applies to were answered. For this purpose, several hypotheses were constructed in order to provide an explanation and applicability of the niche phenomena in strategic management. The final sub-chapter will focus on the implications of the developed niche model.

III.2.3 Implications of the market niche model

The final sub-chapter of the third part will deal with the implications of the market niche model for the field of strategic management and for the construction of a strategic management theory of market niches. Therefore, this sub-chapter is divided into two parts: (1) the first part analyzes the effects this market niche model has on the current research and its original contribution to the body of knowledge, (2) it builds a connection to the potential theory of market niches.

[569] Cf. Das et al. (1993), p. 52.
[570] Cf. Malerba et al. (2007a), p. 371.
[571] Cf. Hannan (2005), p. 65.

(1) What are the implications of the model?

The implications of the model will answer the role which the constructed niche model has in the scope of existing research on the niche and what are its original contributions to the further development of niche research.

The market niche model constructed in this thesis goes away from the classic research of the niche phenomena from the market based perspective.[572] Instead the focus of the model is equally on the market-based as well as the resource-based perspective, which is achieved through the integrative framework of dynamic capabilities.

This new approach does not see the essence of the market niches in determining unsatisfied or better satisfying existing market demand, rather the identification of new market opportunities is only one side of the coin. According to this model, market niches can be the result of the market-based opportunities as well as the internal capabilities of companies to create new market demand, which are both placed in the underlying context of the core capabilities of companies.

This model separates different types of niche strategies. This has often been a cause for confusion in the past where there was no clear consensus on what a niche player is. A niche strategy can generally be applied by any company, either as a corporate or as a business level strategy. The so called "pure" niche players are identified as companies, which apply a distinct market niche strategy at the corporate level, meaning that the main company strategy is focused on a niche market. If a niche strategy is employed as a complementary business strategy, the company is not a pure niche player.

A further distinction is made in the model based on the type of market niche strategy a company employs, which is connected with the company's core competences and its industry type. A niche as a defensive strategy is mainly used in industries where there is little room for new technological advancements or product and service improvements. The market niche strategy in these markets is focused on the creation of market barriers, which disable other companies from harvesting its profits. This is usually connected with certain geographical regions or demographic characteristics of consumers, which enables the niche strategy to better cater to the needs of these customers. The servicing of these consumers by companies

[572] See Danner (2002), Rosenbaum (1999), Cavalloni (1991) among others.

from the main market is usually unattractive or costly and time consuming, therefore giving the niche player a defensive position which protects them from competition. However, this defensive position usually means that a company is restricted in growth and can only protect its market and a growth strategy is not a viable option for these companies as their product or services would not be successful in the main market. On the other hand, companies which employ a market niche strategy as a growth strategy usually face main market competition as their product or service offering is also attractive for competitors to imitate. The advantage of these niche players is in their flexibility and constant development of their core competences, which enables them to stay one step in front of the competition. However, this growth alternative also presents additional risks, if the company is not able to protect or redevelop their competences and loses its competitive advantage in comparison to competitors which can imitate their core competences and bring them to the market on a larger scale. The niche company faces the risk of losing its target market in such a situation. A growth strategy also offers more potential for a breakthrough in the mass market if competitors are not able to duplicate the product or services and if these products or services become appealing for the mass market.

Based on these implications of the model, the final point will focus on the market niche model as a framework for the construction of a strategic management theory of market niches.

(2) How does the model connect to a potential theory?

The market niche model framework presents a first step towards the creation of a strategic management theory of market niches. This section will discuss the implications this model has for the creation of such a theory.

A model does not possess the detail and the reach that a theory does but it represents a good first step towards the creation of a comprehensive theory. A comprehensive theory identifies and explains the connections between different phenomena and explains why certain events, acts and structures happen. Therefore, theory places the focus on the nature of casual relationships and determines the time certain events take place and their order.[573] A theory upgrades the reach of a model because it:

[573] Cf. Weick (1989), p. 517.

> "(…) delves into underlying processes so as to understand the systematic reasons for a particular occurrence or nonoccurrence. It often burrows deeply into microprocesses, laterally into neighboring concepts, or in an upward direction, tying itself to broader social phenomena. It usually is laced with a set of convincing and logically interconnected arguments. It can have implications that we have not seen with our naked (or theoretically unassisted) eye. It may have implications that run counter to our common sense." (Sutton (1995), p. 388)

However, a model can provide a good framework for the construction of a theory by:[574]

- Providing basic definitions
- Describing the domain of a theory by detailing, where and when a certain event happened
- Describing the phenomena which predict their behavior in the future
- Providing a framework and key guidelines upon which a theory can be constructed

The niche model constructed in this thesis provides all of the checkpoints stated above, which could enable the creation of a comprehensive strategic management theory of market niches.

This concludes the third and final part of the thesis. The first chapter of third part provided the theoretical foundations for model and theory development, with the definition, analysis and critical reflection of key constructs. These foundations have enabled the development of a market niche model framework for strategic management in the second chapter of the third part. The developed model is a synthesis and upgrade of the existing research on market niches in strategic management and provides a good framework for the construction of a strategic management theory of market niches.

[574] Cf. Freese (1980), p. 191.

Concluding remarks

In the introduction, the market niche was introduced as a growing research stream in strategic management. This growth was the result of a combination of several factors, which were the result of the underlying process of industry maturation and market commoditization. These factors, which contribute to the development of new market niches, were industry consolidation, growing heterogeneity of demand and technological development. Industry consolidation is important because the companies in maturing markets started running out of new market opportunities for profitable growth. One of the few remaining possibilities to achieve this growth was through the process of M&A, which has lead to an increasing consolidation in existing industries, where only a few large players would dominate. The heterogeneity of demand and individualization of consumer preferences has led to an increasing product offering. The objective was to cater to individual needs of consumers by tailoring the products or services to meet individual demand. The technological development is closely tied to the previous two factors. Its role was increased by the expanding product and service variety and constant demand for new and improved products, which has led to shorter technological cycles and increased product availability.

Based on this initial situation and the current state of research on the niche topic within, strategic management has many niche typologies but no clear common methodological and theoretical framework on which to lean on. Therefore, the objective of this thesis was to create a comprehensive model for the strategic management of market niches, which would provide a framework for the construction of a strategic management theory of market niches. So far this model has remained absent from the market niche research in the field of strategic management and has led to a state of conceptual ambiguity of the field. In the following the central findings of the thesis will be shortly summarized (1). In addition to this summary there will be an outlook and future research perspectives on the topic of strategic market niche management (2).

(1) Summary of central results

The *first part* of the thesis represented the fundamentals of niche research and where the theoretical baseline was established. The broad but structured approach of the niche topic required the understanding of the historical development of niches in

G. Ocvirk, *Strategic Management of Market Niches*, Schriften zur Unternehmensentwicklung, https://doi.org/10.1007/978-3-658-20364-1

sciences. This overview of the development path of niches from ecology, over to sociology and to management sciences provided a basic understanding of some of the issues, which the researchers have faced and which have led to the current state of the field of research. The purpose of this literature review is to determine the intellectual history of the niche as a concept and critically analyze the existing streams of research and point out their strengths as well as shortcomings, which are instrumental for the development of the market niche model framework. The second part of the chapter focused on the definitions which represent the theoretical foundation of the thesis and place the niche in the context of strategic management. These definitions present a summary of previous research done on the topic of the niche and provide a clear conceptualization of the niche as a field of research. Whereby the niche is conceptualized as a specialized market constellation, which protects against scale by satisfying unfulfilled demand, better satisfying existing demand or creating new demand altogether.

The *second part* builds on the knowledge gathered in the first part and presents the dynamic capabilities framework as an integrative paradigm upon which the niche model framework for strategic management will be constructed. The selection of this paradigm was based on its integrative perspective of the two main strategic management streams, which deal with the niche in strategic management: the market-based view and the resource-based view. As each of these two views represents a distinct approach to industry analysis and places the focus on complementary perspectives, outside-in and inside-out. The dynamic capabilities, which are based on the company's ability to achieve new and innovative forms of competitive advantage given path dependencies and market positions, will provide a framework within which these two views can be seen as complimentary and explain how the niche strategies can be managed within this framework, thereby building a foundation for the market niche model in the third part.

The *third part* represents the creation of the market niche model for strategic management. This part represents the synthesis of the previous two parts and expands them within the scope of the market niche model. In order to create such a model, the first chapter focuses on model creation and its components. Therefore, these theoretical constructs are analyzed and defined. The basic theoretical concepts and definitions, which represent the theoretical framework of the model are explained and placed in the context of the basic premises, which are necessary for the construction of this model. These premises provide the step-by-step instructions for the creation of a model and round up the conceptual framework within which the

model is constructed. Additionally, there is a specific topic on issues and deficiencies with model construction in management sciences, which deals with the issues which have to be carefully considered or avoided in order for the model to have a high validity. The second chapter constructs the market niche model framework. The first part which states the definitions and relationships between variables in the model represents the subject of the model. The addition of the cause, explains the reason and significance of the research subject with the creation of a set of assumptions. The main assumptions are that the factors contributing to niche creation place the market niche as a specialized market constellation, which protects against scale. In order to assure above average returns in comparison to the industry average and avoid scale based competition, the market niche strategy has to better satisfy existing, or satisfy unfulfilled demand or create new demand altogether. The definitions and relationships together with the cause form a simple model of strategic market niches. In order to provide a comprehensive and complete model its limitations and reach must also be defined. These limitations are defined within the scope of who, where, and when it applies to. Although companies can follow a niche strategy at both the corporate and business unit level, only the companies which pursue a niche strategy as a corporate level strategy, posses certain identifiable characteristics, which separate them from the rest of the industry. Depending on the industry and competence type, the niche strategies can be either labeled as defensive or growth strategies and are generally better suited for dynamic environments compared to generalist strategies. As a last step after the model was created, its implications for the further niche research were assessed.

(2) Outlook and future research prospects

The creation of a market niche model framework for strategic management provides a first step for the creation of a strategic management theory of market niches. The central insights gained from the market niche model for strategic management requires an elaboration of the central results and implications of this model for further research on the topic of market niches in strategic management. A short overview of the possibilities is presented in the following:

- *Testing of the main hypothesis of the market niche model:* One of the key tasks to validate this model of market niches is to test the hypotheses which were developed in the market niche model. Testing of the model hypothesis would offer an empirical explanation of the relationships between different

variables, which the model proposes. This testing would give further validation to the extension of current knowledge on market niches in strategic management, which leads to the next point of expanding the constructed market niche model into a strategic management theory of market niches.

- *Construction of a strategic management theory of market niches:* The construction of a model and its underlying hypothesis play a vital role in the construction of a theory. A theory represents the highest level of complexity and abstraction, with a high number of variables. The model on the other hand involves more situations or examples from everyday life and has a lower number of variables and a lower degree of complexity. Therefore, the model in this thesis represents a foundation and groundwork for the construction of a comprehensive market niche theory, which will provide a connection between the described phenomena and why these events take place and under what circumstances. The underlying processes of the model which were highlighted in this thesis have to be analyzed in detail in order to understand the systematic reasons behind the market niche phenomena and its accompanying strategies.
- *Research on markets where scale based competition is not the deciding factor:* The main assumption upon which the niche model in this thesis is constructed is the notion that the niche is a specialized market constellation which protects against scale. However, although very rare, there are also industries where scale is not the deciding factor to achieve a competitive advantage in the market. Therefore, these industries have to be inspected in order to determine if market niches exist in this market and what their strategic option is in order to protect them from competitors.

The goal of the thesis was to create a market niche model framework, which reduces the current ambiguity in the number of typologies and provides new insights into the strategic management of market niches, which would enable a further development of strategic niche management as a field of science. This model represents a comprehensive framework, which can be used for the construction of a strategic management theory of market niches.

Appendix

List of appendices

Figures

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Appendix – Figures

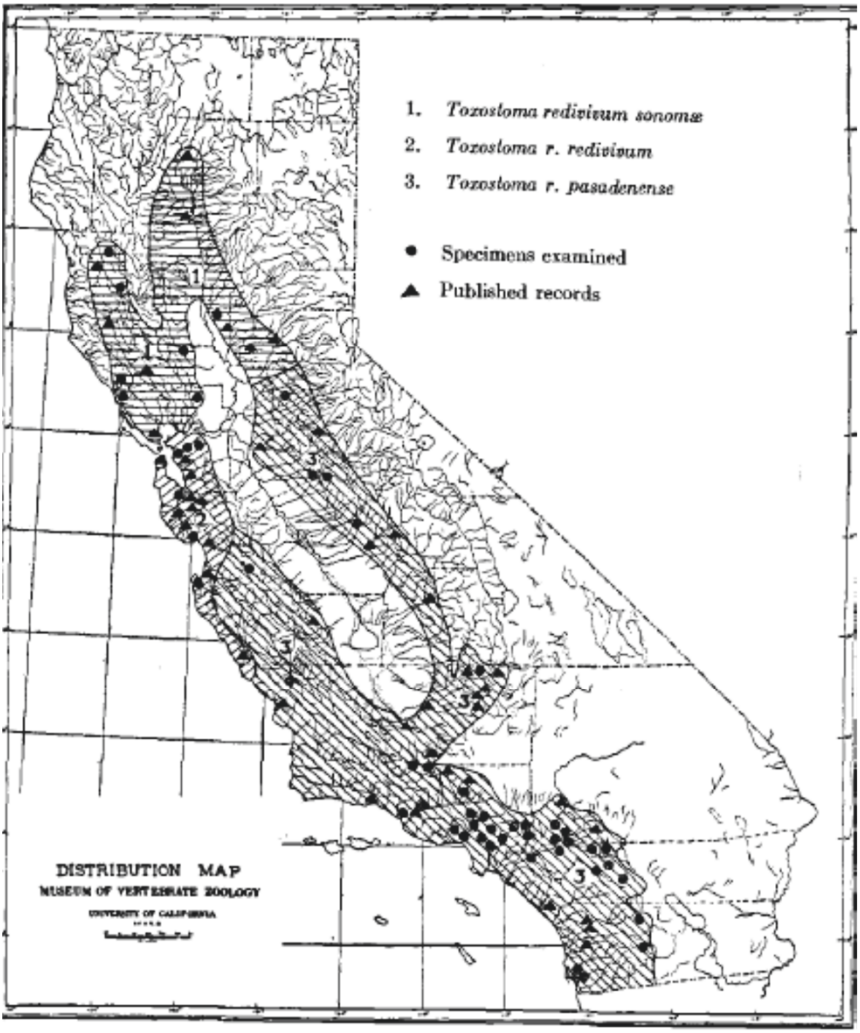

Fig. A-1: Distribution map of the California thrasher
(cf. Grinnell (1917b), p. 429)

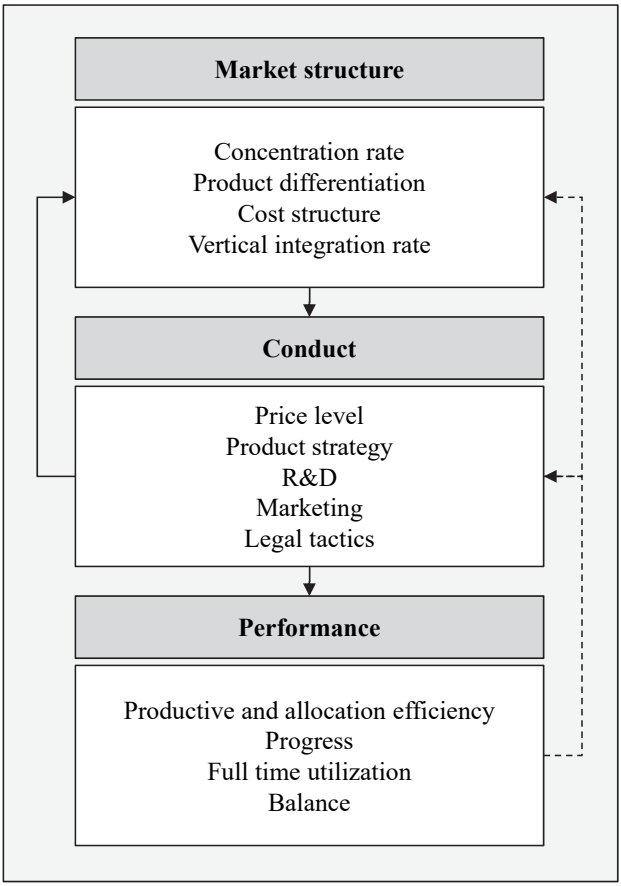

Fig. A-2: Structure-conduct-performance paradigm
(cf. Scherer (1980))

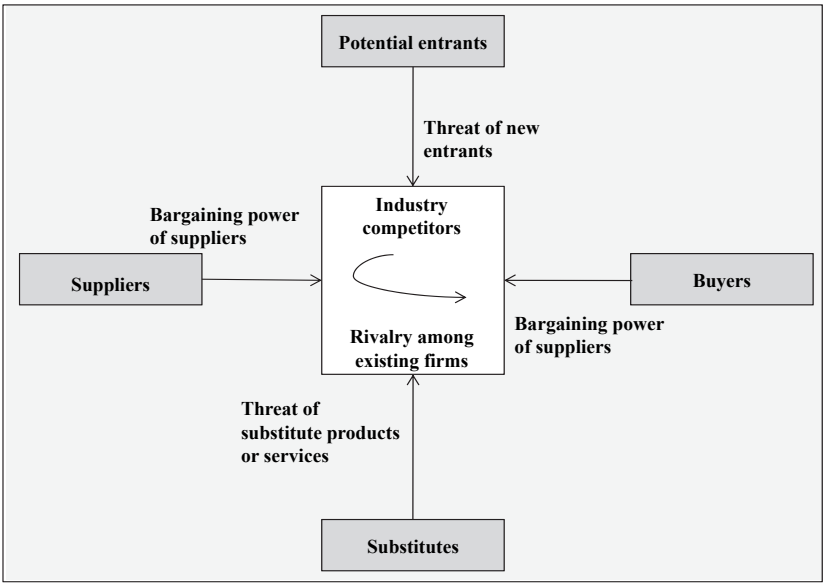

Fig. A-3: Five completive forces

(Porter (2004), p. 5.)

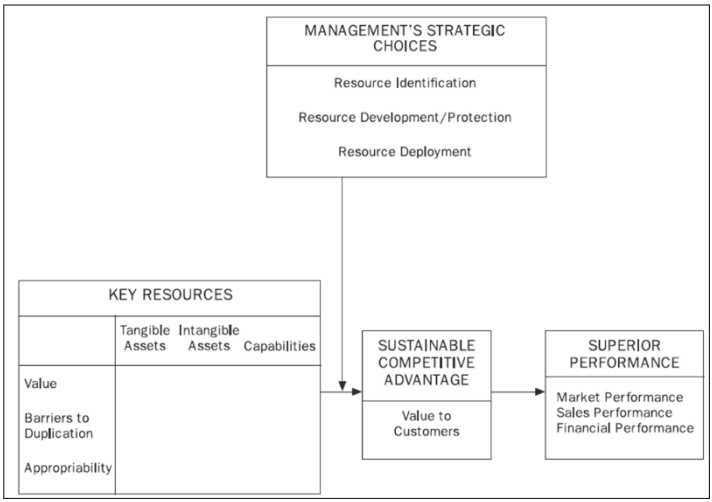

Fig. A-4: The resource-based model of sustainable competitive advantage

(Fahy (2000), p. 100.)

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