Stockholm School of Economics
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Master Thesis in Strategy

An Inventory and Analysis of Practical and Conceptual Resource-based View Models

Abstract

The Resource-based View has become a dominant contemporary approach to strategy. However, it has been subject to criticism in part for its lack of strategic implications and usefulness to practitioners. This in combination with the absence of any existing comprehensive inventory of practical and conceptual RBV models reveals a research gap. Based on an inventory and literature review of practical and conceptual models within the resource-based view, this study analyzes models with regard to applicative implications defined as consistency and complementarity of analytical traits, assumptions and model concepts. The most important conclusions are that we identify 21 conceptual and practical models and determine to what extent these models are consistent in use and can be combined. Moreover, we are identifying a number of approaches to manage some of the weaknesses critical to the application of the identified RBV models.

Keywords: Resource-based View, RBV, Dynamic Capabilities, Conceptual Models, Practical Models, Inventory.

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Date and time: December 6, 2007
Venue: C606

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Introduction

Over the last two decades the resource-based view (RBV) has become increasingly important as a perspective and it could even be considered the dominant contemporary approach to strategy (Foss, 1997, p 5; Wernerfelt, 1995, p 172). In contrast to the out-side-in perspective of the industrial organizations (IO) perspective within strategic management, the resource-based view has emerged as the principal proponent of an inside-out perspective. It seems that all the major academic strategy journals and popular business periodicals regularly feature articles based on a RBV (Foss, 1997, p 5; Priem and Butler, 2001, p 22). A citation analysis of the number of citations within the field of resource-based view gives further indication of the perspective's development in recent years (Fig.1).
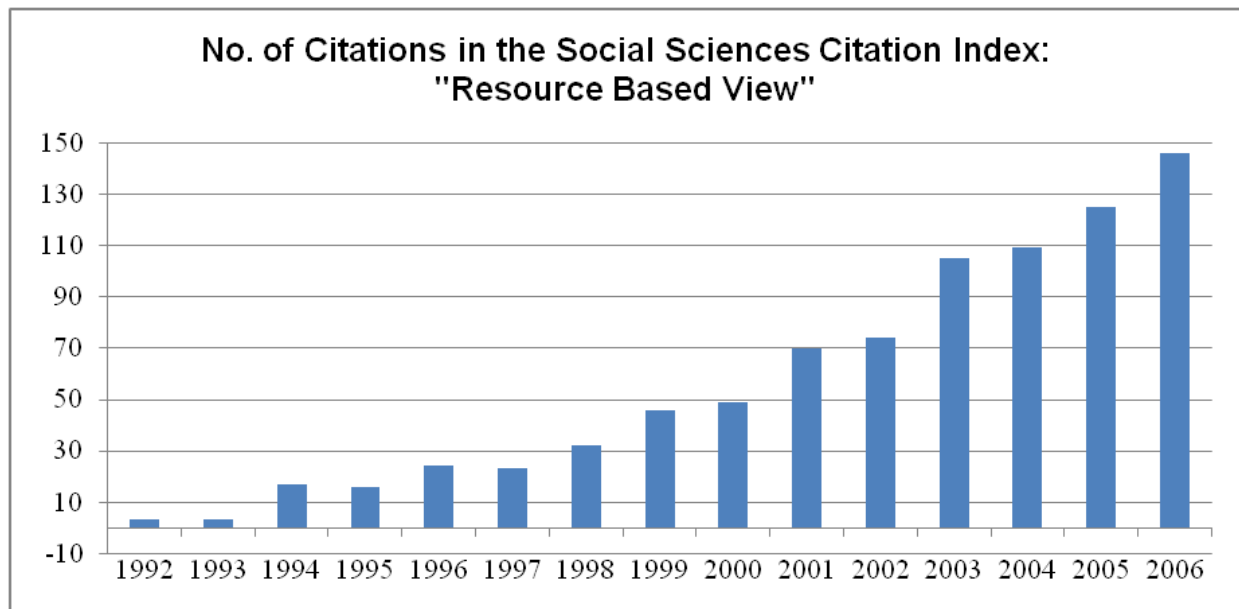
Figure 1: No of citations in Social Sciences "Resource-based View"

Another indication of its growing importance in contemporary strategic management is that RBV is taught as an integral perspective at the worlds leading MBA schools. A quick review of the curricula gives testament to this, and examples of leading MBA-schools that give courses from a resource -based view are Wharton, Colombia and Harvard (MBA Resource Guide 2007-2008, 2007; Curriculum – MBA, 2007; Course Materials: B8708: Corporate Growth & Development, 2007; Corporate Strategy, 2007)

However, in spite of the RBV's growing importance it has been subject to significant criticism. Some of this criticism is concerned with the perspective's usefulness to practitioners. In particular, it has been argued that the strategic implications are ambiguous and that the perspective needs to be clearer in what strategic prescriptions can be made (Priem and Butler, 2001, p 31-32). This perceived lack of use-

fulness and strategic implications is highlighting the interest of reviewing what useful tools and models have been produced within the RBV. In searching for such reviews we found that the models and tools that could be useful to managers were arbitrarily dispersed in the literature and that no inventories of what RBV models have been produced exist. Nonetheless, it should be noted that one can find reviews of strategy tools in general, cf. Gunn and Williams, 2007; Rigby, 2007; Knott, 2006, but none of these reviews are comprehensively covering the conceptual and practical models within the resource-based view. This is revealing a research gap, particularly important in view of Priem and Butler's criticism.

Purpose

The primary purpose of the thesis is to inventory practical and conceptual RBV-models.

The secondary purpose is to analyze the identified models based on their applicative implications.

Definitions

Defining Practical and Conceptual Models
Since this study is aiming to inventory practical and conceptual resource-based models it is imperative to provide a definition of practical and conceptual. As models can be used for various purposes and be based on a variety of assumptions, we will have to delimit our definition to include an internally consistent set of models. We view the existing models on a continuum with theoretical academic models on one side, and practical tools for practitioners on the other side.
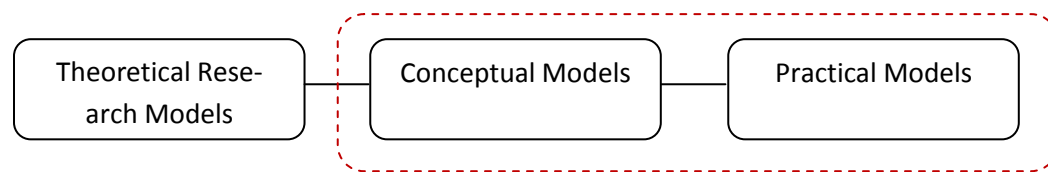
Figure 2: Defining practical and conceptual models.

We define theoretical research models as models intended for theory development or illustration of theory but without any intent of application in practice. Conceptual models are defined as models illustrating a theoretical concept without an explicit intent for practical use, but which could reasonably easily be used by a practitioner. An example of a conceptual model is a model that has been developed for use, but without explicit intent for practical use, and it may not even have been academically tested enough to be called practical model or tool. In contrast, a practical model is defined as a model with an explicit intent for practical use, that is, is indented for managers in a strategy formulation process. What is sometimes called "tool" in strategy literature would be an example of a practical model.

This definition is a consequence of the purpose of wanting to study conceptual and practical research models in response to Priem and Butler's (2001, p 31-32) criticism of the resource based view's usefulness to practitioners and its strategic implications.

Defining Applicative Implications

Given the formulation of the purpose, it is of importance that the concept of applicative implications is thoroughly defined. Turning to research method literature we find suggestions in Eriksson and Wiedersheim-Pauls reasoning about how to understand the applicability of models. According to them, it is when aiming to understand the applicability of a model central to understand the model's *content and applicable properties* (Eriksson & Wiedersheim-Paul 2006, p. 73). They argue that the model should, inter alia, be analyzed with regard to how consistent it is with other middle range theories within the same framework. Furthermore they argue that if one needs to use several models to understand a problem area it is desirable that the models are complementary, in turn enabling more knowledge to be extracted or strengthening the total analysis (ibid). This aspect is highly relevant for our study, since our primary purpose is to inventorize a range of models. Furthermore, according to Hart's discussion about procedures necessary for a literature review, we can conclude that there is a good match between Eriksson & Wiedersheim-Paul's suggestions and Hart's arguments for the necessity of classification (cf. 1998 p 143) when conducting an inventory and review.

Hence, we find common ground for the approach to analyze the models with regard to complementarity and consistency. Lack of consistency and complementarity in use between the found models would imply that the resource-based view has low applicative qualities. That is, if the found models are not consistent and cannot be complemented with other models in the same view, then it will be difficult to use more than one model isolated, and hence the view in terms of collection of models will have low applicative quality.

In order to analyze the models' complementarity in use and consistency in application, we continue to rely on Holme & Solvang (1997) for further guidance in the formulation of the process. They argue that to analyze and evaluate a model one needs to include an evaluation of how *the model claims to explain the phenomenon*, *how the model uses the concepts*, *the conclusions and the relation to basic theory* (p. 62). In other research methodology literature such as Wallén (1993) we find similar criteria for what aspects to consider when describing and evaluating models. Based on these two research method sources we extract a common ground for how to structure the analysis of the models. It seems clear that there are at least three basic aspects of models that need to be considered when analyzing models. These three are:

- Explanatory claim
- Model concepts (model input and output)
- Basic assumptions

If we synthesize the suggestions for analysis of models of Eriksson & Wiedersheim-Paul and Holme and Solvang we can summarize the finding as follow:

	Consistency	Complementarity
Explanatory claim	Consistency in different models explanatory claim.	Analytical complementarity between different models.
Model concepts	Consistency in units of analysis	Complementarity in unit of analysis
Basic assumptions	Consistency in basic assumptions	Complementarity in basic assumptions

Table 1: Definition of applicative implication table

The essence of above matrix is that the models' applicative qualities could be understood by reviewing a model's explanatory claim, its concepts and assumptions with regard to consistency and complementarity. The content of the six fields of the matrix correspond to the six aspects such a review. Based these aspects of applicative implications, we are able to formulate two research questions.

Research Questions

What practical or conceptual models can be found within the resource-based view?

To what extent are the practical and conceptual models within the resource-based view consistent and complementary with regard to explanatory claim, model concepts and basic assumptions?

How these research questions are operationalized in this thesis is developed in the chapter of methodology.

Delimitations

We have decided to delimit our study to models published either in leading academic journals, by known RBV scholars, or in leading strategy textbooks. We find these delimitations reasonable with regard to the scope of this thesis and in order to guarantee a high minimum level of model quality and relevance. We are also limiting the study to screening models within the main theoretical stream of the RBV, labeled the *classical* resource-based view, and to the most dominant sub-stream, the *dynamic capabilities perspective*. We recognize that there are other sub-streams, but as these two are the principal streams we find them the most relevant streams in fulfilling the purpose of this thesis. The choice of sources is discussed further in section "The Sources".

Expected Contribution

The expected contribution of this thesis is the creation of the first, to our knowledge, inventory of practical and conceptual models within the resource-based view. Furthermore it is expected that this thesis contribute to the theoretical discussion about the applicability of the resource-based view by addressing criticism from Priem and Butler, among other scholars. In terms of practical application we expect this thesis to contribute to the knowledge of how models fit together and if some combinations of models are more or less suitable from the point of view of the chosen definitions and delimitations. The thesis is also likely to reveal research gaps and areas of improvement for the view, and could render suggestions of how to contribute to making the resource-based view more applied.

Methodology

This section will explain which methods we use for fulfilling our purpose and why the methods were chosen. We will also discuss aspects of the thesis that might affect the quality of research.

Research Design

A Literature Review

In response to the purpose of wanting to inventory practical and conceptual RBV models, we find it suitable to approach the study from an exploratory and descriptive angle. Using the format of a literature review is therefore a suitable foundation for our inventory (Hart, 1998, p 1), especially since an inventory almost by necessity is implying some kind of review. According to Hart (1998, p 27), literature reviews serve several purposes in research. Some of these are:

- o Distinguishing what has been done from what needs to be done;
- o Understanding the structure of the subject;
- o Relating ideas and theory to applications;
- o Discovering important variables relevant to the topic.

Since the purpose is to inventory conceptual models and to analyze the models based on their type of applicative implications, all four of the above purposes of literature review are consistent with the purposes of this thesis. The first purpose of distinguishing what has been done corresponds well to our ambition to inventory and illustrate the models found within conceptual resource-based analysis. By classifying and mapping the models, which is argued by Hart (1998 p 143) to be a necessary stage of a literature review, we will create an overview of how the models can substitute and complement each other in a full resource-based analysis. When analyzing the models and relating them to each other we can also reveal potential gaps of knowledge which would satisfy the first purpose of a literature review, as stated by Hart (1998, p 143). Hence, Hart's discussion of the purposes of a literature review (1998, p 27) corresponds well to both of the purposes of this thesis.

The Sources

The aim for a full review and inventory of practical and conceptual models in the RBV is highlighting the relevant question of what sources to use. This issue will have a significant impact on the quality of the inventory. Given this, we have decided to combine two types of sources in order to capture the full range of existing practical and conceptual RBV models. These two types of sources are leading academic journals and leading strategy textbooks.

Firstly, deciding to study literature sources is a natural choice when considering the purpose and character of the research questions. It is not likely that any other method would be more suitable. For example, interviews with experts and academics would not only make it more difficult to replicate the study, it would also be somewhat more problematic to find the right interviewees. We argue that very few

suitable alternatives to the literature were available given the purpose and research questions at hand. This issue will therefore not be further discussed.

Secondly, selecting leading academic journals and leading strategy textbooks might provoke questions of whether all available and relevant contributions to practical and conceptual models have been published in such publications. However, we argue that in order for this study to be relevant for both practitioners and researchers we need to assure some form of lowest-level of quality of identified models. More specifically, through selecting *leading* sources in combination with a well-designed search strategy we are able to avoid less recognized authors that have published models in less recognized publications. This decision of method is based on the assumption of how the dynamics within an academic field is working; when valuable or truly new contributions are added within a fairly narrow field of research, that contribution will be discussed and receive attention from other scholars, even the leading scholars. This implies that a valuable contribution published in a less recognized source would still have showed up in reference lists or discussions in the relatively more recognized articles that we have screened. Since no other models have occurred in this fashion, we interpret this as our method serving our purpose well. That is, to gather all practical and conceptual models within the RBV available.

Leading Strategy Textbooks

The reason for why we have decided to focus on *leading* strategy textbooks is also due to the vast amount of textbooks existing in the market of strategy literature. To screen them all would not have been possible nor useful since many models found in the textbooks are recurring in other textbooks as well as in journals and vice versa. This observation indicates that our selection of models is likely to be very close to the full range of available conceptual and practical resource-based models. The probability that there are a significant number of models that have not been included in our selection is estimated to be very low, mainly because our search indicates that there are reasonably low deviations in content in books we screened. This in combination with recurring models in the books that were screened is supporting our expectation that our search is sufficient to capture the (very close to) full range of available practical and conceptual models within RBV.

In order to determine what strategy textbooks are leading we combine two methods; a main method and a complementary method. The main method is to operationalize the word "leading" in commercial terms, choosing books based on the number of sold copies. Since we do not wish to limit ourselves to national or local statistics for bestselling strategy textbooks we have decided to use the statistics found on one of the largest online bookstores that is selling worldwide; amazon.com. This way of selecting which strategy textbooks to screen is based on the assumption that strategy professors and teachers (primarily on MBA programs) all over the world have a well informed opinions about which strategy textbooks that are most complete and are of good quality. When they use their knowledge and overview of the field of corporate strategy to choose book for their business school courses, students buy the books generating sales that is reflected in Amazon's list of bestsellers. To complement this main method we have chosen a number of other leading strategy textbooks after consulting our thesis supervi-

sor. It is our assessment that these two methods for selecting strategy textbooks to screen jointly have, to a reasonable degree, exhausted the possibilities to find additional models.

The found models will be presented under separate sections in the chapter Empirical Findings indicating if we found the model in a less or more applied source. This is done to emphasize the differences in origin, since less applied journals and textbooks have a different purpose in being more applied in its approach, than journals that have focused on less applied models and more of theory development. Less applied sources is defined as sources directed towards practitioners rather than academics. Beside the textbooks, two journals qualify to this group as well; Harvard Business Review and Sloan Review of Management. The distinction between more and less applied journals was made after consulting with our thesis supervisor.

The Search Strategy

To find all relevant models within the resource-based view, we have designed a search strategy that will maximize the probability of finding all models within the scope of the purpose and delimitations, without screening an unnecessarily excessive amount of articles. As stated in "The Sources" section we have selected three different search dimensions that together ought to be jointly exhaustive.

Publisher

Given the above stated criteria for what sources to use, we search as a first step the dimension of publisher, i.e. the leading academic journals where influential academic contributions are published. The selection of journals is made on the basis of several journal rankings in the field general management and strategy. The summary of all the journal rankings (within strategy and general management) was compiled by Prof. Anne-Wil Harzing, University of Melbourne (www.harzing.com, 070929). The selection for this study was made through identification of the three most complete rankings (rankings with largest number of journals). Thereafter, a synthesis was made of the three journal rankings, and the ten journals with the highest ranking in the synthesized ranking were selected as leading. This method of selecting journals can therefore be argued to constitute the consensus of what is regarded as high quality journals. Hence, with our choice of method in mind, we find that this method results in a selection that is corresponding well to our claim to screen the leading academic journals in strategy and general management.

The screened journals are:

- Journal of Management Studies
- Strategic Management Journal
- Academy Management Review
- Academy Management Journal
- Administrative Science Quarterly
- Journal of International Business Studies
- Journal of Management
- Journal of Business

- Harvard Business Review
- Sloan Review of Management

Author

As a second step in our search strategy we screen the published articles of known scholars within the resource-based view[1]. The selection of scholars is based on names that occurred in articles with models found in the search described above in section "Publisher". Adding to that, we have also included scholars that we came across during our pre-study of orientation in the research field, as well as scholars mentioned in the meetings with the thesis supervisor. The search is based on these scholars' CVs and is enabling us to identify articles and models by leading authors that for any reason might not emerge in searches in leading strategy textbooks or leading academic journals.

Topic

Finalizing the searches in the above-mentioned dimensions *publisher* and *author*, the last dimension *topic* is searched to minimize the possibility that any relevant model has been excluded in previous searches. This last dimension of search is conducted with the help of leading strategy textbooks for business schools. This selected search method was based upon the assumption that textbooks offer overviews of the most important contributions to applied strategy compiled by distinguished scholars, and therefore ought to include references to most of the articles where conceptual and practical models could be found.

To be clear, it should be emphasized that this search was aimed at identifying *articles* that had been *referred* to in textbooks. Strategy textbooks did therefore fill two roles in our literature screening; firstly as a collection of strategy issues that referred to leading articles with potential models. Secondly, it served as a source of models from more applied sources, regardless of whether it had roots in academic articles or not.

Search Words

It is reasonable to assume that academic articles containing practical and conceptual resource-based models will, at least once, contain the common abbreviation "RBV" as either key word or mentioned in the text. To compensate for possible alternative use of terminology such as "resource-based perspective" or "resource-based theory" we will also search all articles for the words "resource based". The use of these search words is based on the assumption that no conceptual resource-based model is presented in an article that do not contain either "RBV" or "resource based" at least once. If any potential model is presented in an article not containing any of these words, it is very likely that one or more of the model selection criteria are violated, e.g. the criteria that the model must be presented within the resource based view (elaborated below).

However, only searching for articles focused on resources is not thorough enough since the resource-based view is more complex than that it can be reduced to the concept of "resource based". The differ-

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[1] For a full list of the selection of authors, see appendix.

ent focus within the view have developed to two relatively distinct theoretical streams where one is more static and based on the concept of resources in the strict meaning of the word, while the other stream is more dynamic and focus more on capabilities and the development of new capabilities (Regnér, 1999, p 125). This theoretical distinction will be further elaborated later in the thesis, but the immediate implications for the search strategy is to include terminology of the more dynamic sub stream in case that there exist models focused on dynamic capabilities presented without mentioning "resource based" or "RBV". This is done to further reassure minimize the risk of not including all relevant contributions of conceptual resource-based models.

Operationalization of the Analytical (second) Research Question
To operationalize the formulated research question, we restate the findings of the discussion about definition of applicative implication:

	Consistency	Complementarity
Explanatory claim	Consistency in different models explanatory claim.	Analytical complementarity between different models.
Model concepts	Consistency in units of analysis	Complementarity in unit of analysis
Basic assumptions	Consistency in basic assumptions	Complementarity in basic assumptions

Table 2: Definition of applicative implication table (2)

These six aspects are treated in three analyses addressing the resource-based view's applicative implications with regard to consistency and complementarity. These three analyses are analytical chronology, unit of analysis and theoretical sub-stream.

	Consistency	Complementarity
Explanatory claim	"Analytical chronology"	
Model concepts	"Unit of analysis"	
Basic assumptions	"Theoretical sub stream and origin"	

Table 3: Summary of planned analyses

The three analyses are motivated and elaborated in the following discussion of the operationalization.

Analytical Chronology (Consistency and Complementarity in Explanatory Claim)

To analyze and classify the models with regard to analytical complementarities, a meta-structure for all practical and conceptual RBV-models is necessary. More specifically, all found models will be related to a framework that is describing an applied full-range RBV-analysis, and that is allowing us to understand the models applicative implications in the light of Priem and Butler's criticism of the resource-based view. Collis and Montgomery (2005, p 47) is arguing that for practical application of the RBV, the simple framework of *inventory of resources*, *assess the value* of those resources, and then derive *strategy implications* such as investing or upgrading resources, is a suitable approach. Three very similar steps are found in Grant (2005, p 155). More specifically, the three steps are first *identification of resources and capabilities*, second *appraisal of resources and capabilities* and finally the *development of strategic implications*. We find these steps suitable to our purpose in that they provide three distinguishable categories whereby the final step entails strategic implications. The benefit of using strategic implications as a separate category is that it enables us to compare the findings of the models classified in that step with Priem and Butler's criticism. We shall henceforth label these three steps/categories analytical chronology. Based on the above we define the steps in the analytical chronology as following:

Step 1: Identify the Key Resources and Capabilities[2]

The first step is to identify both resources and capabilities. These resources and capabilities should be considered relevant for further analysis and they could either exist within the firm or within the industry. Most RVB authors prefer that focus remain on the firm, but Grant (2005) and Amit and Shoemaker (1993) differ in that they are also considering industry factors. Moreover, here are various methods and models available to facilitate this identification and those models will be classified in this category.

Step 2: Appraising Resources and Capabilities

The second step is appraisal and valuation of the identified resources and capabilities. This valuation can be conducted in various ways and the models that facilitate or could facilitate such valuation will be classified in this category.

Step 3: Developing Strategic Implications

The third and last step is the development of strategic implications. Models in this category give advice on how to manage resources and capabilities, especially those found valuable in step 2, in different situations.

To be able to classify the models, we need to make sure that we extract relevant information from the models for a classification. In the discussion of how to define applicative implication we based our structure and research question on principles suggested by Holme and Solvang (1997) as well as Wallén

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[2] Note that the expression "resources and capabilities" is used in broad terms, and should be replaced with whatever unit of analysis the model is developed for.

(1993), and we find it suitable to once more use these principles. The reasoning behind this choice is that their suggested principles are valid for structuring the content as well as for what information to extract for the analysis. To illustrate this we stress the necessity of understanding the models' core characteristics to be able to classify them according to analytical chronology. More specifically, extracting information of the models explanatory claim, assumptions and input concepts and output concepts will be necessary to understand if models are consistent when applied together, and if there is a high degree of complementarity.

To summarize, in order to analyze and classify models with regard to analytical complementarity in our defined analytical chronology, we will extract the following information about the models:

- Explanatory claim
- Model input (concepts)
- Model output (conclusion and concepts)
- Basic assumptions

The finding of this extraction of information will be presented in the chapter Empirical findings.

Theoretical Sub Stream (Consistency and Complementarity in Assumptions and Origin)
A pre-screening of the availability of models has revealed that there are several theoretical origins of the models discussed in the academic literature. Regnér (1991, p 123) argues with support of Teece, Pisano and Shuen (1997) and Levinthal (1995) among others, that two separate sub streams can be identified; a "classic" resource-based and a more dynamic one. The differences between the sub streams will be elaborated more in-depth in the chapter of "Theory", but one important observation for the application is that the differences will affect which models that are suitable to combine in an analysis. Hence, we conclude strong support for our methodological conclusion that theoretical sub stream is relevant for an analysis that is addressing the models' consistency and complementarity in use. We will therefore classify the models with regard to "classic" or "dynamic" properties and assumptions.

A problematic issue when analyzing the models' relation to sub stream is that articles are not always explicit with assumptions, and a varying degree of interpretation may therefore be necessary. Even if the implications of some assumptions can be identified, it is still not likely to be an unambiguously exhaustive set of the underlying assumptions. Adding to that, there are no distinct criteria for when an article belongs to one or the other sub stream, and the division might be perceived as somewhat arbitrary (Regnér 1999, p. 123f). All this uncertainty in distinction between sub streams taken into account, it seems most suitable to use several ways of evaluating which sub stream the article is belonging to, and interpret the result of the classification more as a tendency or indication of belonging rather than a definite label.

In Holme & Solvang (1997, p 139ff) it is suggested to use text content analysis for extracting information in an unstructured qualitative research material like this. A holistic interpretation of the entire material (p. 141-144) is thus proposed as favorable option. Subsequently, we apply a holistic interpretation of the

research material, but complement this by a review of the underlying definition of resources and capabilities stated in association with the respective model. The reason for this is that one of the most important differences between the classical RBV and the dynamic capabilities perspective is found in the character of capabilities. The Dynamic Capabilities Perspective is distinguishable by its concern with dynamic capabilities, e.g. defined by Teece et al (1997, p 516):

"*We define dynamic capabilities as the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments*." Teece et al (1997, p 516).

Consequently, we use this definition as important criteria for determining whether a model is belonging to the classical RBV or the Dynamic Capabilities Perspective.

Unit of Analysis (consistency and complementarity in model concepts)
The third analysis that is relevant for our research question is the discussion about how the consistency and complementarity of the input/output concepts can be evaluated for the found models. The first step in reviewing the concepts, or unit of analysis as it will be mentioned henceforth, is to establish on what units of analysis the various models are based (e.g. resource or capability). The found units of analysis are: firm-specific advantages, resources, capabilities (incl. core), competencies (incl. core) and dynamic capabilities. The definitions of the units of analysis are the following:

Firm-specific advantages are broadly defined as advantages that "cover a very broad set of unique company strengths" (Rugman and Verbeke, 2001, p 238). This definition is found to be the broadest in the range of identified models. Nonetheless, it should be noted that Rugman and Verbeke's models are the only ones based on this definition.

Resources are also broadly defined although more specifically as *"firm resources include all assets, capabilities, organizational processes, firm attributes, knowledge, etc controlled by a firm that enable the firm to conceive of and implement strategies to improve its efficiency and effectiveness"* (Barney, 1991, p 101.) This type of definition is at the core of the classical RBV and applied by e.g. Wernerfelt (1984, p 172) and Collis and Montgomery (1998, p 72).

"Capabilities [...] refer to a firm's capacity to deploy resources, usually in combination, using organizational processes, to affect a desired end. They are information-based, tangible or intangible processes that are firm specific and are developed over time through complex interactions among the firm's Resources" (Amit & Schoemaker, 1993, p 35).

Competencies could be seen as a form of capability that is coordinating other capabilities (Pralahad and Hamel, 1990, p 82; Foss, 1997, p 11).

"Dynamic capabilities involve adaptation and change, because they build, integrate, or reconfigure other resources and capabilities" (Helfat and Peteraf, 2001, p 2) or as Teece et al (1997, p 516) is defining "*dynamic capabilities as the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments*."

These are the units of analysis that is analyzed in the Analysis chapter.

Research Quality

Validity

The concept of validity is in broad terms referring to whether a variable is actually measuring what it is supposed to measure (p. 167, Holme & Solvang 1997), or as Söderlund summarizes it: "systematic measurement errors" (2005, p 149). Since this study is an inventory and analysis of how conceptual RBV-models relate to each other, the concept will apply to the question whether this study is actually capturing the true and full range of conceptual RBV-models. That is, whether the below mentioned criteria for what constitutes a conceptual RBV-model actually is appropriate and what we have captured in this study. The evaluation of validity is therefore a critical evaluation if our three criteria actually will bring us the right type of models.

Taking a closer look at the concept of validity it appears that several types of validity analyze the measures of a study. The three definitions that exist is internal validity, external validity and construct validity. Depending on measure and research purpose, different kinds of validity will apply. The internal validity is mainly relevant for studies that attempt to establish a causal relation. Since this is not the case in our study, we will not discuss this matter further. External validity is defined as whether a study can be valid in other experimental settings. That is, if our study were to be conducted in a different cultural setting with other researchers, would the researcher come close to the result in the first study? Therefore, it is said that measures with high external validity have good conditions to generate conclusions that can be generalized to a larger population. Construct validity relates to the scale that is used in the measurement of a social construct (Ghauri & Grønhaug 2005, p. 80-89). We will discuss the application of external and construct validity in our thesis below.

When evaluating the measures in our thesis from an external validity point of view, we can conclude that the concept applies to the use of our criteria for selecting models. Since validity is defined as a systematic measurement error, the question is whether our criteria points out models that are truly conceptual and practical, and that no or very few conceptual and practical RBV-models have been left out. Though, what is problematic when estimating the degree of external validity when qualitative criteria have been used is that there are no clear and unambiguous boundaries between some of the used key concepts. For example, the boundaries between the resource-based view and other related strategic theoretical streams are far from established in the academic discourse. Therefore it is difficult to estimate if another researcher in a different setting would select the same models using a criteria containing the concept of resource-based view. Even the basic structure of the topic could be argued to be constituted in a number of ways. One example of this is whether a certain theoretical stream is part of resource-based view or its own "view"? This could be argued in a number of ways, considering that a certain model might be based on important contributions of the resource-based view as well as other theoretical streams. This kind of reasoning is relevant for all our criteria, why it is very difficult to evaluate

our model criteria. Additionally, the very concept of "conceptual and practical models" is our own definition and is hence not a static point of comparison either.

Therefore there are limits to how high external validity that it is possible to achieve with the kind of measurements that this thesis is based upon. However, by being systematic and explicit in our used definition we argue that we have achieved a reasonably high external validity given the conditions.

Construct validity relates to the ability to generalize as external validity, only in a different way. The concept refers to the match between an operationalization of a theoretical and socially constructed concept and the concept itself. The core issue is whether the operationalization really gives the researcher a foundation to draw conclusions and generalize about the concept on the basis of the operationalization[3]. Our way of, for example, operationalizing the measurement of distribution of models when establishing analytical chronology is done by specifying criteria. Hence, the construct validity in this example applies to the terminological consistency between the definition of analytical chronology and the criteria for establishing which step in the chronology a model belongs to. In this case, as in the case of external validity we minimize the loss of validity by being explicit and clear in the definitions we have chosen to use.

Reliability
Reliability is the concept that is used for describing a study's precision in the collection of data (p. 163ff, Solvang & Holme 1997). According to Söderlund, it is the measure of how much an observation deviates from the "real" value (2005, p 134). To maximize the reliability a researcher should either reproduce the study with the same measurement, let other researchers repeat the study, or use similar criteria in the same occasion (Söderlund 2005 p 1324ff). Considering that the concept of reliability discussed in research method literature is highlighted from the view of the survey-designing marketer, all aspects are not fully applicable on our study. In this study the concept applies to e.g. the precision in the procedures used to find and select the models, more specifically the precision in the criteria. To address the reliability aspect of our measure we chose to enhance the search strategy with several similar search dimensions. More specifically, by searching along the dimensions of publisher, author and topic independently we would replicate our search in three different ways with the same criteria. This way we would not only be sure to include any conceptual model, but also be sure that the models that emerged in all three searches really did belong to the sample. This method could be argued to correspond to the first of Söderlund's methods to deal with reliability, to "*reproduce the study with the same measurement.*"

There is always a certain risk to the reliability when using qualitative criteria for extracting information from non-standardized sources of information. However, our replication of the search process along three dimensions is our ways of within reasonable boundaries maximize the reliability in the selection of models.

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[3] http://www.socialresearchmethods.net/ 20071116

Theory

Since our purpose is to inventory and categorize models within a theoretical 'view' we will first briefly introduce the view itself, and thereafter introduce the theories we have used to understand and categorize the models.

Description of the Resource Based View

The Origins

With origins in Penrose's (1959) view of firms as a broader set of resources, (Barney, 1991, p. 101; Kor and Mahoney, 2004, p 191) the resource based view assumed its modern form in 1984, following the publication of Wernerfelt's "A Resource Based View of the Firm" and Rumelt's "Towards a Strategic View of the Firm" (Foss, 1997, p. 5). Wernerfelt (1984) explored the usefulness of analyzing firm resources as opposed to firm products and developed tools to manage the firm resource profile in order to optimize product-market activities in diversified firms (Wernerfelt, 1984, 171). Priem and Butler (2001, p. 23) are claiming, "*one major contribution was to direct strategy scholars back to resources as important antecedents to products and ultimately firm performance*". However, it was not until the Resource Based View was further developed in Barney (1986), Dierickx and Cool (1989) and Wernerfelt (1989) that it gained impact (Wernerfelt, 1995, p 171).

The Link between Resources and Performance

The link between firm resources and performance is one of the most fundamental inferences of the RBV (Foss, 1999, p 2.). Firm resources are considered to be important determinants of firm profitability over time (Amit and Schoemaker, 1993, p 35). The basis for this link is that certain *resources* generate and sustain the *competitive advantage* (Barney, 1986, p 1236). The exact definition of this kind of resource has been varying amongst the RBV scholars, and has in turn resulted in external criticism (Foss, 1997, p 11; Priem and Butler, 2001, p 23). Wernerfelt, Barney and Collis and Montgomery tend to apply a broad definition of *resources*, referring to everything that could generate rents (profits), including capabilities, skills and competencies (Wernerfelt, 1984, p 172; Barney, 1991, p 101; Collis and Montgomery, 1998, p 72). Others have come to emphasize the distinction between resources and capabilities, as resources being factors of production whilst capabilities the abilities to deploy these factors (Amit & Schoemaker, 1993, p 35; Grant, 2005, p 144; Mahoney, 2000, p 655). Another concept is that of competencies or core competencies, first used by Pralahad and Hamel (1990, p 92). They do not diminish with use (Pralahad and Hamel, 1990, p 92) and could be seen as a form of capability that is coordinating other capabilities (Foss, 1997, p 11), including for example organizational learning, coordination of production skills and integration of technology streams, communication, involvement and deep commitment to working across organizational boundaries (Pralahad and Hamel, 1990, p 92). It seems that those who consider knowledge-based assets more important for competitive advantage tend to refer to competencies and capabilities (Foss, 1997, p 11).

Heterogeneity and Immobility of Resources

Regardless of the exact definition, there is a commonly held explanation for why these resources, capabilities or competencies can be a source of competitive advantage. First, resources are assumed to be *heterogeneously* distributed within the industry and, second, they are *immobile*. This is highlighted by Barney (1991, p. 101) in stating "*in an industry firms are heterogeneous in regard to the strategic resources they control; the strategic resources may not be perfectly mobile and thus long lasting.*" These two conditions are two of the most fundamental assumptions of the RBV (Priem and Butler, 2001, p. 25).

The Value of Resources

In order to determine what resources are strategic, various models for valuation of resources have been developed (Cf. Peteraf, 1993; Barney, 1991; Grant, 1995; Black & Boal, 1999; Fleisher and Bensoussan, 2004). The general idea is however to establish whether a resource is *valuable* and *non-tradable*, which is likely to be due to the difficulty to imitate and substitute it (Dierickx and Cool, 1989, p. 1509). Amongst the most influential of these models is Barney's (1991, p 101) VRIS (VRIN) model (Priem & Butler, 2001, p 24), which is conceptualizing the generation of rents through a method for resource appraisal based on the criteria of *value*, *rareness*, *in-imitability* and *non-substitutability* (Barney, 1991, p 110; Mahoney and Pandian, 1992, p 364). Inimitability origininate primarily in historical dependence, causal ambiguity and social complexity (Barney, 1991, p 108; Lippman and Rumelt, 1982, 418). Historical dependence implies that resources may be difficult to imitate since their creation is linked to unique historical conditions (Barney, 1991, p 110). Causal ambiguity exists when the relationship between the resources controlled by the firm and its sustained competitive advantage is difficult to define (Barney, 1991, p 110; Lippman and Rumelt, 1982, p 436). Social complexity results from resources being connected to socially complex phenomena (interconnectedness), therefore making them difficult to imitate (Barney, 1991, p 111; Dierickx and Cool, 1989, p. 1507).

The Dynamic Capabilities Perspective

Springing from the criticism that the early version of the resource-based view is not attempting to explain the mechanisms that create strategic resources, the dynamic capabilities perspective is considering these higher order mechanisms more important to competitive advantage (Teece et al, 1997, p 510; Winter, 2002, p 2; Eisenhardt and Martin, 2000, p 1106). These mechanisms are identified as dynamic capabilities, which are capabilities "*that operate to extend, modify or create ordinary capabilities*" (Winter, 2002, p 2), "*the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments*" (Teece et al, 1997, p 516) or "*the organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die*" (Eisenhardt and Martin, 2000, p 1107). The dynamic capabilities perspective is, apart from the classical resource based view, influenced by the Schumpeterian tradition (Mahoney, 2001, p 653) in that it is linked to creation and change (Helfat and Peteraf, 2001, p 2). This difference between is manifested in their views of the market. In the dynamic capabilities perspective competitive advantage is bound to be temporary and short-term (Eisenhardt and Martin, 2000, p 1118) and sustained competitive advan-

tage does not exist. In contrast, it is the firm's ability to create a series of these temporary advantages that lead to long-term profitability (D'Aveni, 1994, p 223; Eisenhardt and Martin, 2000, p 1118).

Moreover, it is of note that the proponents of the classical resource-based view, generally applying a broader view of resources and capabilities, are regarding "dynamic capabilities" as simply "capabilities that are dynamic" (Barney, 2001, p 630) and some are even doubting the usefulness of searching for higher order capabilities as there is likely to be an infinite regress in the explanation for competitive advantage (Collis, 1994, p 143). Another issue is to what extent dynamic capabilities are created deliberately or by chance (Cavusgil et al, 2007, p 164).

An example of another parallel theoretical sub-stream is for example the *knowledge-based view*, which is regarding knowledge creation or learning as the most important capability (Grant, 1996, p 110; Spender, 1996, p 46). Since these new sub-streams are not compatible with the purpose of this thesis, they will not be further described.

The Criticism

Finally, it should be recognized that although the resource based view has gained tremendous influence in strategic management and could even be considered one of the dominant contemporary approaches to strategy, it has been subject to criticism (Foss, 1997, p 5; Priem and Butler, 2001, p 22; Williamson, 1999, p 1088). The main arguments in this criticism have been that the RBV is conceptually vague, tautological, lacking empirical applicability and usefulness for practitioners (Cf. Foss, 1997, p 5; Priem and Butler, 2001, p 22; Williamson, 1999, p 1088). Barney has inter alia responded to some of this criticism through for example stating that all management theories can be reduced to tautology by Priem and Butler's (2001) definition and is claiming that the important point is that at least some elements of the theory can be parameterized in order to generate testable empirical assertions (Barney, 2001, p 42.). Both Barney (2001, p 42.) and Eisenhardt and Martin (2000, p 1107) are, however, explicitly arguing that neither the classical RBV nor the Dynamic Capabilities perspectives are tautological, and that both can be empirically tested.

Theory for Model Criteria

The theory in a thesis such as this one plays the role of structuring the material as well as providing criteria and conditions. In a literature review over scientific models it is naturally important with stringent definitions of what constitutes a model to limit the search for RBV-models. Considering that there are no criteria within the resource-based view for what constitutes an RBV-model, we turn to a more general definition of models found in the area of philosophy of science. In the Stanford Encyclopedia of Philosophy (2007) we find the following model definition:

"In modern logic, a model is a structure that makes all sentences of a theory true, where a theory is taken to be a (usually deductively closed) set of sentences in a formal language (see Bell and Machover 1977 or Hodges 1997 for details). The structure is a 'model' in the sense that it is what the theory represents. As a simple example consider Euclidean geometry, which consists of axioms—e.g. 'any two points can be joined by a straight

line'—and the theorems that can be derived from these axioms. Any structure of which all these statements are true is a model of Euclidean geometry.

A structure S = <U, O, R> is a composite entity consisting of (i) a non-empty set U of individuals called the do-main (or universe) of S, (ii) an indexed set O (i.e. an ordered list) of operations on U (which may be empty), and (iii) a non-empty indexed set R of relations on U. It is important to note that nothing about what the objects are matters for the definition of a structure—they are mere dummies."

We interpret this as a model needs to have a limited set of objects to analyze, a set of operations for the objects to follow, and a set of relations between the objects. Hence, the definition of a model is the *combination* between a certain set of *objects*, their *operations* and the objects' *internal relations*.

Example illustrating with Barney's VRIS-model:

Objects: A firms resources, information about the resources industry value and industry heterogeneity and industry substitutes and information about the resources limitability.

Operations: Four binary criteria for the objects to pass, where each criteria is necessary but not suffi-cient – valuable; rare; inimitable; non-substitutable.

Relations: Hierarchy of the criteria with the order: Valuable-Rare-Inimitable-Substitutable. For the theory to be true the three first questions must be positively answered, and the last negatively.

This model criterion has been applied during the screening of models. Consequently, all identified mod-els fulfill this criterion and consist of objects, operations and internal relations.

Empirical findings

Before presenting the models that have been identified we will summarize the three criteria that were developed in methodology section.

According to our purpose, we inventorize and analyze models within the RBV. Hence the first criterion is that models must address the very basic traits of a resource-based model as described in the theory section. Secondly, the model must live up to what we defined as a model with support of structures from philosophy of science. Thirdly, the models found must also be practical or conceptual according to earlier stated definition. To summarize before presenting the models, the criteria for including models in the inventory is as follow:

The models must:

1. Assume the perspective where a firm is analyzed through the *endowment of internal resources*.
2. Meet the criteria of *what constitutes a model* based on the philosophy of science.
3. Be *practical or conceptual*, according to its original author.

The Models Identified

Subsequent to the previously described search strategy, an extensive screening of academic articles and textbooks has been conducted. In fact, more than 1000 academic articles have been browsed. The result is a number of identified models, which will be outlined and presented in the following section.

In order to facilitate the tracking of the identified models in the various stages of our categorization and analysis, we are introducing a code name for each model. The code name is consisting of three figures, whereby the first is a letter (A;…U) based on the order of presentation in empirical findings. The second figure indicates the position in the analytical chronology (1;2;3) and the last letter imparts the theoretical belonging (C;D), where C is representing the classical RBV and D is representing Dynamic Capabilities. This is visualized in the following figure:
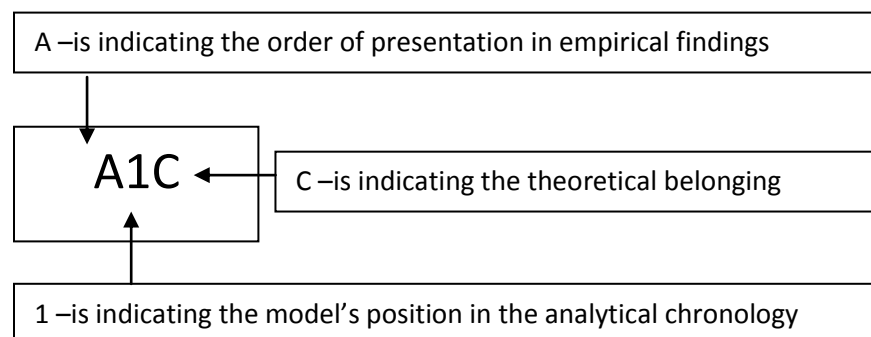
Figure 3: Indexation of the Identified Models.

Models	Model Code Name	Description
Models from less applied sources		
Grant (1996a, p 378) The Hierarchy of Capabilities	A1C	Tool for visualizing what capabilities generate competitive advantage.
Barney, J.B. (1991, p 112) Firm Resources and Competitive Advantage	B2C	The VRIS-Model: a framework for evaluating whether a firm resource can be a source for sustained competitive advantage.
Black & Boal (1994, p 142) Strategic Resources Traits, Configurations and Paths to Sustainable Competitive advantage	C2C	A framework establishing network capability configurations which lead to high or very high support of sustainable competitive advantage.
Peteraf (1993, p 186) The Cornerstones of Competitive Advantage A RBV	D2C	A framework for determining what capabilities generate competitive advantage
Hall, R (1999, p 611) A Framework Linking Intangible Resources and Capabilities to Sustainable Competitive Advantage	E2C	A framework of classification of the nature and characteristics of intangible resources
Helfat et Peteraf (2001, p 14) The Dynamic Resource-Based View Capability Lifecycles	F2D	A framework for understanding the evolution of capabilities over time
Chen Y and Li Y (2006, p 327-331) The Construction of a Model and Scale for Assessing Technology Resources	G2C	Model and scale for assessing resources based on four dimensions: Technology, Market, Human and Finance.
Wernerfelt, B (1984, p 176) A Resource Based View of the Firm	H3C	Resource-product Matrix: a tool for mapping of resources in product markets
Wernerfelt, B (1984, p 179) A Resource Based View of the Firm	I3C	The Stepping Stone Model: a framework for evaluation of resource diversification in terms of their long-term capacity to function as *stepping stones* for sequential expansion into new product markets

Amit & Schoemaker (1993, p 37) Strategic Assets and Organizational Rent	J3C	A framework connecting Strategic Industry Factors with Strategic Assets (Resources and Capabilities)
Birkinshaw & Hood (1998, p 783) Multinational Subsidiary Evolution Capability and Charter Change	K3C	A model for identifying five generic capability evolution processes in subsidiaries
Rugman & Verbeke (1998, p 365-371) Corporate Strategies and Environmental Regulations: An Organizing Framework	L3C	A model for evaluating environmental regulations' impact for resource allocation in relation to the Firm Specific Advantages to Country Specific Advantages
Hillman & Hitt (1999, p 838) Corporate Political Strategy Formulation	M3C	A decision-tree model for political strategy formulation and navigation in the political policy process
Rugman & Verbeke (2001, p 240) Subsidiary-Specific Advantages in Multinational Enterprises	N3C	A model for assessing patterns of competence building in MNE:s
Models from Textbooks and more applied Journals		
Pralahad & Hamel (1990, p 90) The Core Competence of the Corporation	O3C	The Product/Core Competency Matrix: a framework for visualizing the link between products and their respective core competencies
Grant (2005, p 138). The Resource Identification Framework	P1C	Framework for identifying and classifying resources into categories.
De Wit & Mayer (2004, p 279) Strategy – Process, Content and Context	Q1C	A system for classification of capabilities
Grant (2005, p 159) The Resource and Capabilities Gap Framework.	R2C	A framework for highlighting resource and capability gaps through firm's key strengths and weakness relative to industry.
Fleisher and Bensoussan (2004, p 209) Strategy and Competitive Analysis	S2C	Five tests for determining competitive value

| Collis & Montgomery (1998, p 72) Triangle of Corporate Strategy | T3C | Framework for analyzing the fit and alignment of the elements of corporate strategy. |
| Schoemaker (1992, p 77) How to Link Vision to Core Capabilities | U3C | The Core Capabilities Matrix: a framework for linking core capabilities, strategic segments and various competitive scenarios in order to develop strategic direction |

Table 4: Overview of identified models.

To introduce the models further we will proceed immediately to a more detailed presentation of the models. Presenting the models with regard to model input, model output and explanatory claim will not only give the necessary components for further analysis, but also provide material for an ample presentation of the models as well as a better understanding for the stricter application of the model criteria.

To recapitulate the discussion in the method section regarding the analysis, we will use the three basic aspects of a model input, output and explanatory claim to understand how the models fit together in our defined analytical chronology.

Findings from Less Applied Sources

A1C -The Hierarchy of Capabilities
The Hierarchy of Capabilities (Grant, 1996, p 378) is a tool for visualizing capabilities in functions and activities, facilitating the identification of capabilities. The model inputs are a series of categories: cross functional capabilities, broad functional capabilities, activity related capabilities, specialized capabilities, single task capabilities and the identified capabilities. The output is a disaggregation of capabilities into a functional and activity based hierarchy. The model claim is to provide a way of breaking up capabilities into smaller parts, on activity level.

Figure 1   Organizational Capabilities of a PBX Producer: A Partial Vertical Segment
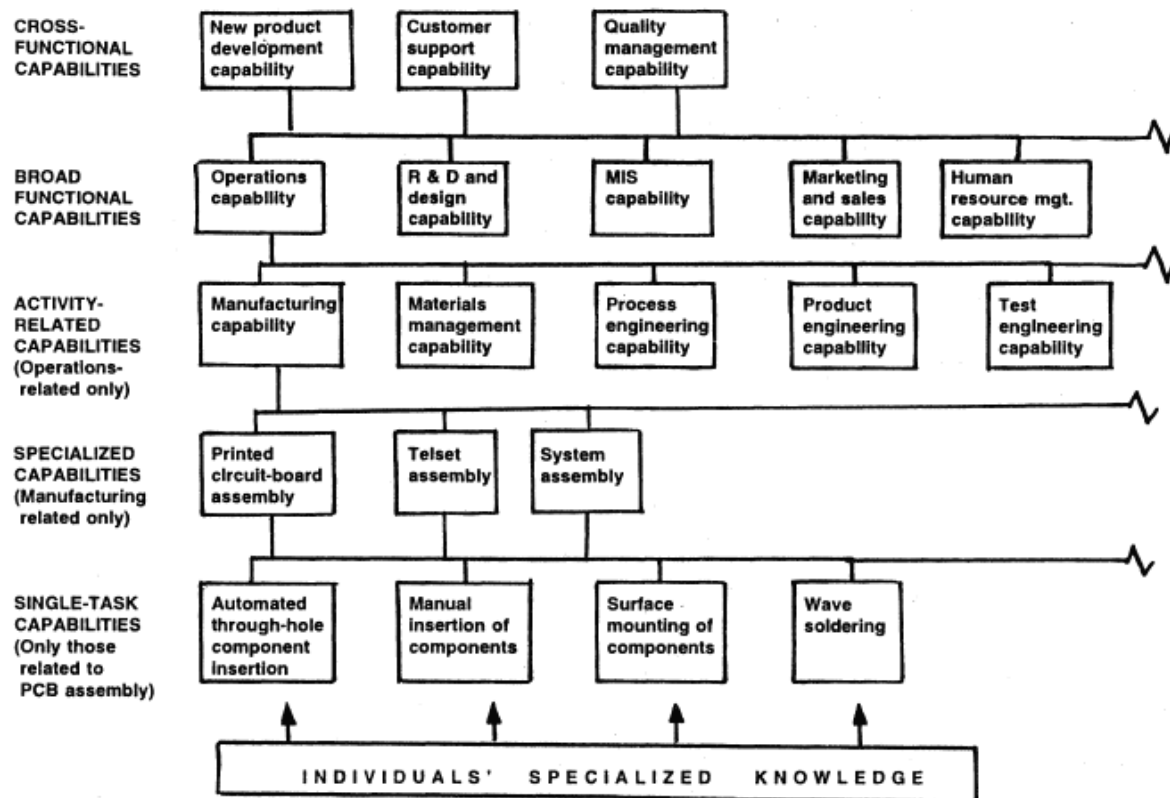
Figure 4: Model A1C.

B2C -The VRIS-model

The VRIS-model (or VRIN-model) was published in "Firm Resources and Competitive Advantage" (Barney, 1991, p 112). The model is a framework for evaluating whether a firm resource can be a source of sustained competitive advantage. The criteria in this evaluation are whether a given resource is *Valuable, Rare, Inimitability* and *non-Substitutability*. The inputs are subsequently information about the resource's value in the relevant market, information about the resource's scarcity in the market, how difficult it is to imitate (in turn based on historical dependence, causal ambiguity and social complexity) and how difficult it is to find substitutes for the resource. The output is whether the given resource is a source of competitive advantage. Therefore, the model claims to establish what resources give rise to a sustainable competitive advantage.
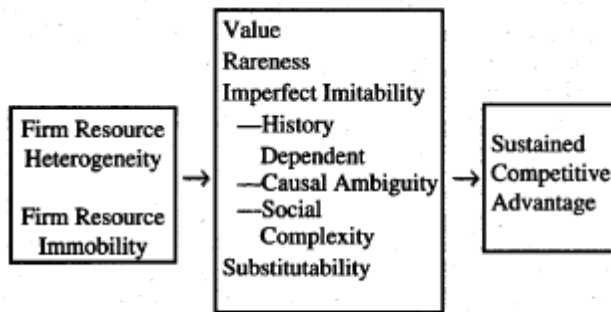
Figure Two. The Relationship Between Resource Heterogeneity and Immobility, Value, Rareness, Imperfect Imitability, and Substitutability, and Sustained Competitive Advantage.

Figure 5: Model B2C.

C2C -The Black & Boal-model
The Black & Boal-model was published in "Strategic Resources Traits, Configurations and Paths to Sustainable Competitive advantage" (Black & Boal, 1994, p 142) and is a framework for establishing capability configurations that lead to high or very high support of sustainable competitive advantage. The model input is information about whether the factor/capability is part of a complex network, whether there are substitutes, whether the factor is in a compensatory relationship with a tradable network or a non-tradable network and whether the factor is in an enhancing relationship with another network factor. The output is whether the factor is supporting a high or very high support of a sustainable advantage. The model claim to explain the relation between resources, their role in the network and the resources internal relations.
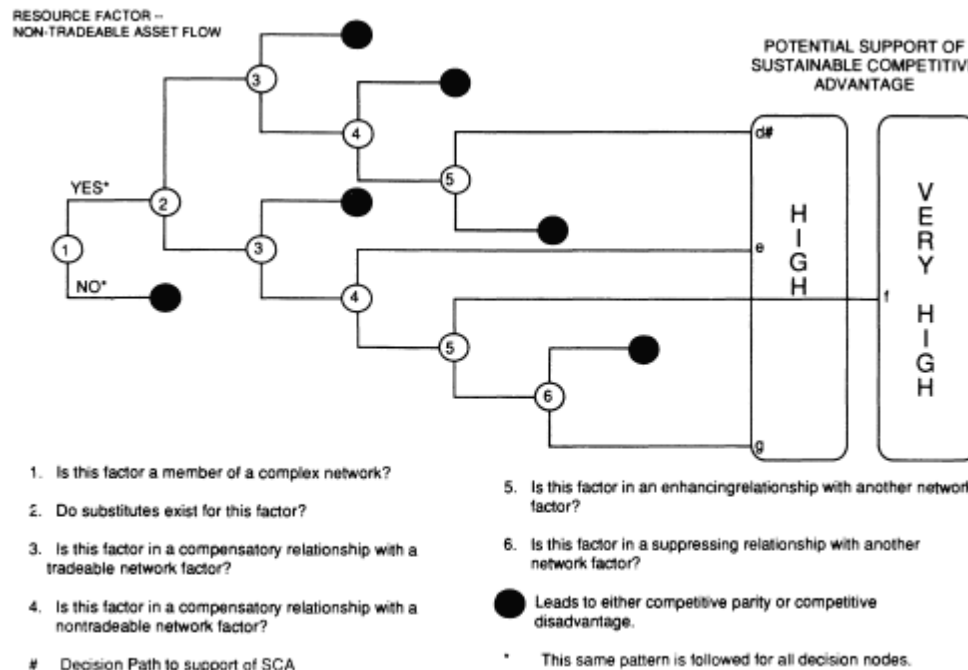
Figure 4. System resource local network configuration decision tree

Figure 6: Model C2C.

D2C -Peteraf's Resource and Capability Appraisal Model

The Resource and Capability Appraisal Model was published in "The Cornerstones of Competitive Advantage: A Resource Based View" (Peteraf, 1993) and is a model for determining what resources and capabilities generate competitive advantage. It is similar to VRIS, but explores ex-post and ex-ante limits to competition. The inputs are information about the specific resource's heterogeneity in the market, the ex post limits to competition for the resource, the ex ante limits to competition for the resource and its degree of mobility. The output is the resource's contribution to the firm's competitive advantage. The model claim is to present a model for how to understand, preserve, or extend their competitive advantage.
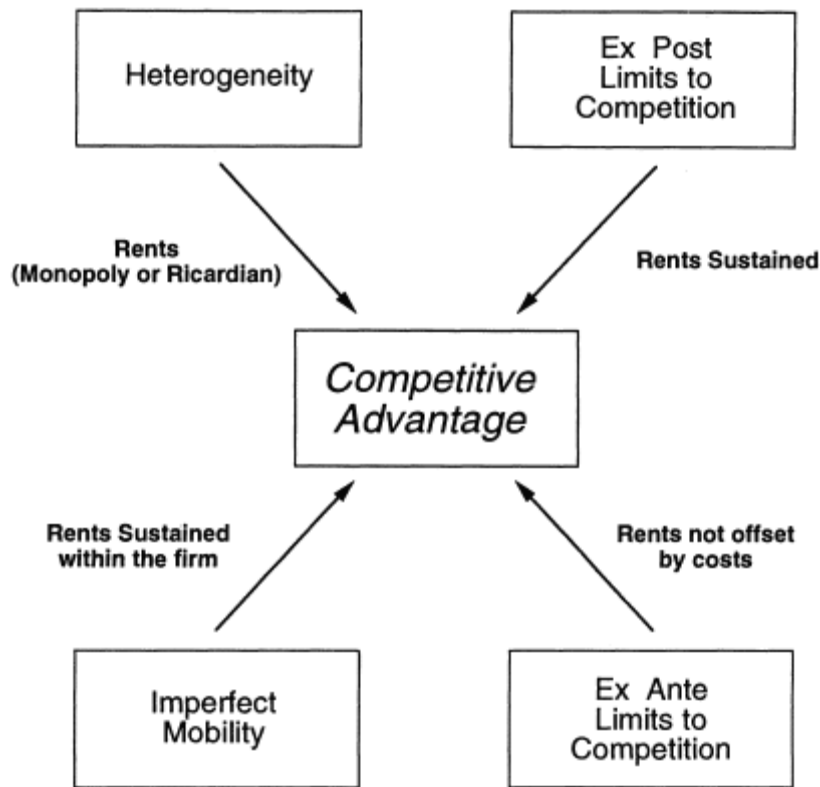
Figure 3. The cornerstones of competitive advantage

Figure 7: Model D2C.

E2C -Hall's Framework of Intangible Resources and Capabilities

Hall's Framework of Intangible Resources and Capabilities was published in "A Framework Linking In-tangible Resources and Capabilities to Sustainable Competitive Advantage" (Hall, R, 1999) and is a framework for classification of the nature and characteristics of intangible resources. The framework input is information about the characteristics of the intangible resources, in terms of people dependent, independent, functional, cultural, positional, regulatory, skills and assets. The output is a classification of the intangible capabilities and the model claim to identify which intangible resources that create a sus-tainable competitive advantage.

Table 2. A framework of intangible resources and capabilties

	Capabilities				
	Functional	Cultural	Positional	Regulatory	
People Dependent	Know-how of employees, suppliers, distributors				Skills
		Perception of quality Ability to learn, etc.			
			Reputation Networks		
People Independent			Data bases		Assets
				Contracts licences trade secrets (incl. some data bases) int. propy. rights	

Table 5: Model E2C.

F2D -The Capability Lifecycle Framework

The Capability Lifecycle Framework was published in "The Dynamic Resource-Based View Capability Life-cycles" (Helfat et Peteraf, 2001) and is a framework for understanding the evolution of capabilities over time. The framework input is information about the character of the capability in relation to its life cycle stages and infer that there are six 'R' of development following a selection event: Retirement, Retrenchment, Renewal, Replication, Redeployment and Recombination. The output entails an understanding of the evolution and potential evolution of capabilities that is important to the appraisal of the capabilities. The model claim to explain the sources to heterogeneity in capabilities through the description of capabilities in terms of life cycles.

Figure 2
Branches of the Capability Lifecycle

Selection Event

Renewal, Redeployment, or Recombination

Level of Capability Per Unit of Activity

Replication

Retrenchment

Retirement

0

Cumulative Amount of Activity
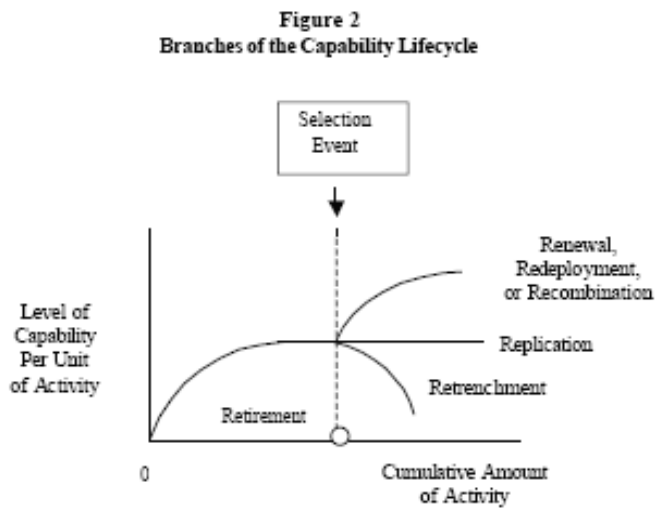
Figure 8: Model F2D.

G2C -Chan and Li's Model for Technology Resource Assessment
Chan and Li's Model for Technology Resource Assessment (Chan and Li, 2006) is a model and scale for assessing technology resources, which could be used to justify investments and predict chances of new venture success. Its inputs are the answers to four categories of questions covering the technological dimension, the market dimension, the human dimension and the financial dimension. The claim is that this model could predict new venture success based on its control of necessary resources.

Table 4. Measurement of Technological Dimensions

Evaluation Items	Result	Resource Quality
		Measured by Interviewer SRv SRr SRh SRn
Economic significances and technical advancement of technological concepts	☐Yes/☐No	
Explicit technology analysis and planning (technology map)	☐Yes/☐No	
Comprehension and commercial ability of technologies acquired	☐Yes/☐No	
Thoughtful thinking of IPRs (ex.patent) protection and related issues	☐Yes/☐No	.
Functions and cost analysis of new product	☐Yes/☐No	
Explicit engineering specification, interface specification, manufacturing specification	☐Yes/☐No	
Feasibility study of new product and its market	☐Yes/☐No	
Strictly executing and controlling product development time sheet (time to market)	☐Yes/☐No	
Continuous cost-down and quality increase (competition to quasi products in market)	☐Yes/☐No	
Quickly reach scale of economy and scope of economy	☐Yes/☐No	
Timely launch of sequential new products	☐Yes/☐No	
Capability of technical support and services	☐Yes/☐No	

Table 5. Measurement of Marketing/Market Dimensions

Evaluation Items	Result	Resource Quality
		Measured by Interviewer SRv SRr SRh SRn
Clearly understand the market competitive structure, opportunities, and questions	☐Yes/☐No	
Potential market growth and scale	☐Yes/☐No	
Position of new product (features, functions, and added value)	☐Yes/☐No	
Application of product and target customers	☐Yes/☐No	
Marketing manager has background in high-tech marketing, related technical field, management skill, and finance analysis	☐Yes/☐No	
Clear marketing tactics and strategy (key successful factors, strategic clusters, goal of market share, entry cost)	☐Yes/☐No	
Capabilities of finance/sales analysis in segmented markets	☐Yes/☐No	
Clear picture of channel analysis and budgeting for sales expenses (advertising, conferences, promoting, public relations, etc.)	☐Yes/☐No	
Product-line plan, product positioning, and competitive analysis	☐Yes/☐No	
Available marketing channel	☐Yes/☐No	
The sales process of the product	☐Yes/☐No	
Product improvement opportunities	☐Yes/☐No	

Table 6: Model G2C.

Table 6. Measurement of Human Dimensions

Evaluation Items	Result	Resource Quality Measured by Interviewer SRv SRr SRh SRn
Capabilities to manage, integrate, and motivate the team(s)	☐Yes/☐No	
Completeness and the sustaining of team(s)	☐Yes/☐No	
Knowledge background in finance, management, marketing, and technology	☐Yes/☐No	
Shared vision and passion in work	☐Yes/☐No	
Commit to sustainability of business	☐Yes/☐No	
Talented people acquired with the expertise in technology, product, market, and management	☐Yes/☐No	
Capability and open-minded thinking to hire talent	☐Yes/☐No	
Role played by supervisor and consultant	☐Yes/☐No	
Human portfolio of technology, finance, law, and strategy	☐Yes/☐No	
Intervention of business operation by senior members	☐Yes/☐No	
Industrial domain and human/societal network	☐Yes/☐No	

Table 7: Model G2C.

Table 7. Measurement of Financial Dimensions

Evaluation Items	Result	Resource Quality Measured by Interviewer SRv SRr SRh SRn
Enough money to verify concept and develop the prototype	☐Yes/☐No	
Enough cash flow	☐Yes/☐No	
Expected business income or profit	☐Yes/☐No	
Enough fund raising to move forward to the next phase	☐Yes/☐No	
Explicit financial plan (including stockholder's equity plan)	☐Yes/☐No	
Consistence between financial plan and execution	☐Yes/☐No	
Capability of fund raising and financing (long-term and short-term)	☐Yes/☐No	
Good at utilization of governmental policy incentives	☐Yes/☐No	
Capability of project management and budget control	☐Yes/☐No	
Proper measurement of business performance (ex.: cost benefit analysis)	☐Yes/☐No	
A clear stage-gate goal	☐Yes/☐No	
A strategic exit mechanism	☐Yes/☐No	

Table 8: Model G2C.

H3C -The Resource-product Matrix

The Resource-product Matrix was published in "A Resource Based View of the Firm" (Wernerfelt, 1984) and is a tool for mapping resources in a firm's product markets. The model input information is what markets the firm is present in, and what strategic resources that are used in each product market. The output is a map of what resources are used in what product market. The model claim is to highlight

what resources are related to what products, and to illustrate the strategic options of the resource-based perspective.

Resource / Market	I	II	III	IV	V
A	X				X
B	X	X			
C		X		X	
D			X		X

Figure 1. Resource-product matrix

Figure 9: Model H3C.

I3C -The Stepping Stone Model

The Stepping-stone Model was just as the resource-product matrix published in Wernerfelt's (1984) "A Resource Based View of the Firm" and is building on that model. The Stepping-stone model is a frame-work for evaluation of resource diversification in terms of their long-term capacity to function as stepping-stones for sequential expansion into new product markets. The inputs are product markets, resources and capabilities and an implicit learning curve. The output is a visualization of the steps for how transfer of resources and the development of new resources could enable sequential entry into new product markets. Hence, the claim is to explain how experiences in one market give rise to a sequencing of entering of markets.

Resource / Market	Mass Assembly	Consumer Marketing	III	IV	Electronics Technology
Chips	X				X
Stereosets	X	X			
C		X		X	
Computers			X		X

Figure 4. Stepping stone

Figure 10: Model I3C.

J3C -The SIF-SA-model

The SIF-SA-model was published in "Strategic Assets and Organizational Rent" (Amit & Schoemaker, 1993) and is a framework connecting Strategic Industry Factors with firm specific Strategic Assets (Resources and Capabilities). The model inputs are Strategic Industry Factors and firm specific Strategic Assets. Grant (1995) has operationalized the model further and attributed a relative weight and strength of each factor. The output is a visualization of potential resource gaps; i.e. firm resources lacking or too weak for success in the industry. Therefore, the model claim to visualize the relation between what is strategic in the industry with what are strategic assets in the firm.
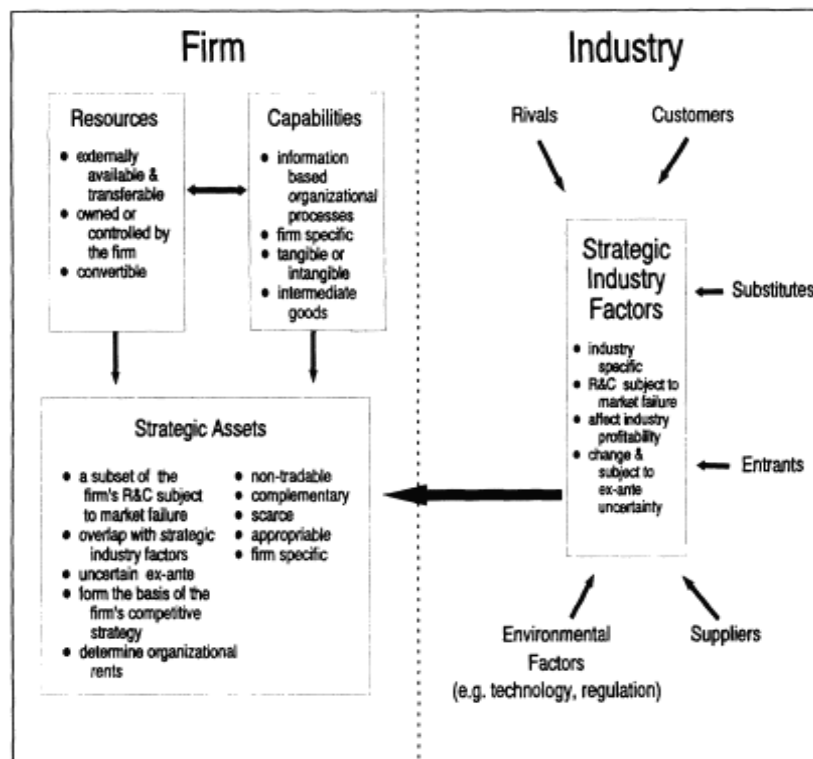
Figure 1.   Key constructs

Figure 11: Model J3C.

K3C -The Capability Evolution Process Model

The Capability Evolution Process Model was published in "Multinational Subsidiary Evolution Capability and Charter Change" (Birkinshaw & Hood, 1998) and is a model for identifying five generic capability evolution processes in subsidiaries. The model inputs are information about change in capabilities and change in charter. The change in charter is viewed in terms of loss, no change and gain, whilst the change in capabilities is viewed in terms of depletion, sharpening/strengthening and enhancement. The output is the identification of the subsidiary's situation within the scope of the five subsidiary evolution processes named: PDI, SCE, SCR, PDD and ASN. The model claim to shed light on the processes that drive change in subsidiaries activities and underlying capabilities.

FIGURE 2
Subsidiary Evolution As a Function of
Capability and Charter Change

Note: Numbers refer to the five generic processes we discuss in the text.
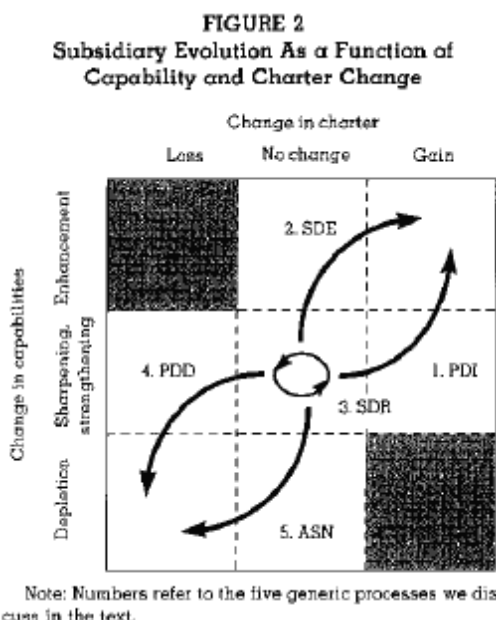
Figure 12: Model K3C.

TABLE 2
Five Generic Subsidiary Evolution Processes

Contextual Factors	Action	Outcome
Parent company factors • Competitive internal resource allocation • Decentralization of decision making • Ethnocentrism of parent management **Subsidiary factors** • Track record of subsidiary • Credibility of subsidiary management • Entrepreneurial orientation of subsidiary employees **Host country factors** • Strategic importance of country • Host government support • Relative cost of factor inputs • Dynamism of local business environment	**PDI** Parent: Decision to make investment; evaluation of various locations → Subsidiary: Lobbying	Establishment of new charter in subsidiary (CC); gradual development of commensurate capabilities (CB)
→	**SCE** Subsidiary: Identification of new opportunities; building capabilities (CB); proposal to parent → Parent: Judgment on subsidiary proposal	Extension of charter in subsidiary (CC)
	SCR Subsidiary: Competitiveness-driven search; upgrading of existing capabilities (CB) →	Reinforcement of existing charter in subsidiary
	PDD Parent: Decision to divest; evaluation of various locations → Subsidiary: Lobbying	Loss or diminution of charter (CC) in subsidiary; atrophy of existing capabilities (CD)
	ASN Subsidiary: Inaction; atrophy of capabilities (CD) → Parent: Judgment on subsidiary's lack of competitiveness	Loss or diminution of charter in subsidiary (CC)

Key: CC, charter change; CB, capability building; CD, capability depletion.

Table 9: Model K3C

L3C -Rugman & Verbeke's Environmental Regulations Framework

Rugman & Verbeke's Environmental Regulations Framework was published in "Corporate Strategies and Environmental Regulations: An Organizing Framework" (Rugman & Verbeke, 1998) and is a framework for evaluating environmental regulations' impact for resource allocation in relation to the Firm Specific Advantages to Country Specific Advantages. The inputs are environmental regulations, the impact on environment in terms of conflicting or complementary, the time horizon for the managerial response in terms of static or dynamic, the leveraging potential of resource commitments for environmental performance in terms of weak or strong, flexibility of the resource commitments, impact on the Country Specific Assets and on the Firm Specific Asset Configuration. It claims to present a framework for managers to deal with environmental regulation in a strategic way in firms.
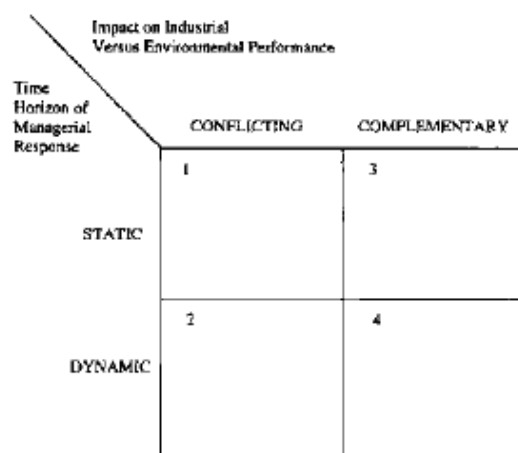
Figure 1.   The impact of environmental regulations on the firm: Four managerial perspectives
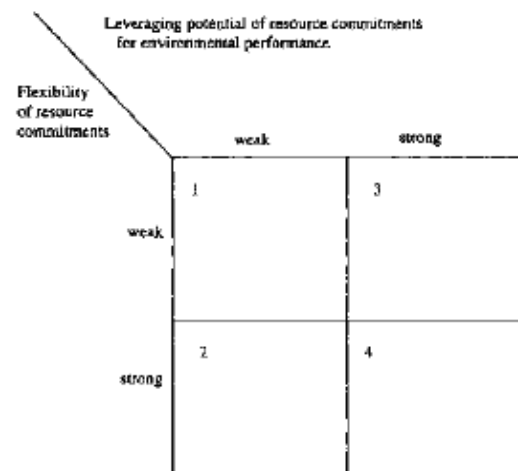
Figure 2.   The development of firm-level green capabilities
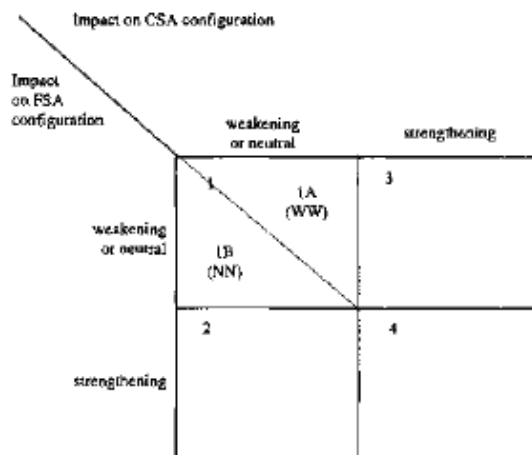
Figure 3.   The impact of environmental regulations on strategies of multinational enterprises

Figure 13; Figure 14; Figure 15: Model L3C.

M3C -Hillman & Hitt's Corporate Political Strategy Framework

Hillman & Hitt's Corporate Political Strategy Model was published in "Corporate Political Strategy Formulation" (Hillman & Hitt, 1999) and is a decision tree model for political strategy formulation. It aims to provide a model for strategic navigation in the political policy process. The inputs are degree of dependence, corporate or pluralism in the government system, the firm diversification level, transactional or relational approach, individual or collective approach, nature of the issue, issue life cycle, nature of issue and the firm or collective's resources. The output is a corporate political strategy, consisting of a configuration of the different elements following the decisions at D1, D2 and D3. The model claim to provide a comprehensive taxonomy for political strategies, that is, firm strategies for coping with the societal-political context of business.

FIGURE 2
Variables Affecting Specific Decisions
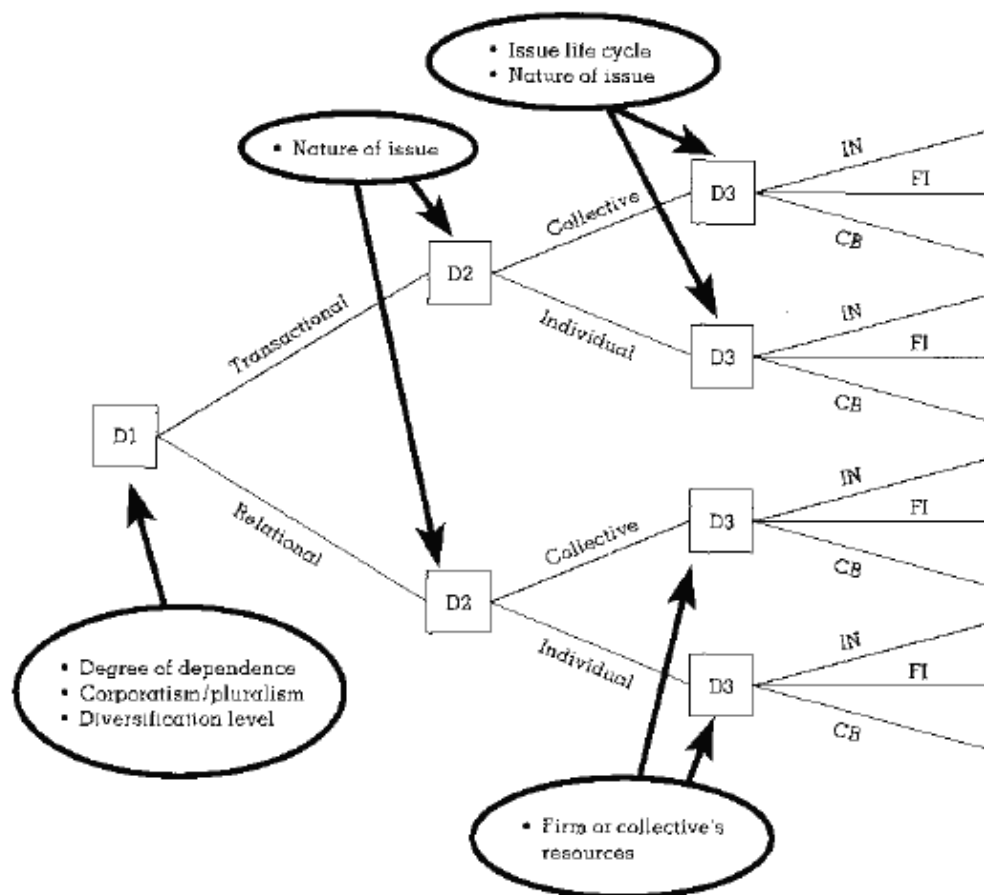
Legend: IN, information; FI, financial incentive; CB, constituency building.

Figure 16: Model M3C.

N3C -Rugman & Verbeke's Competence Building Model for MNEs

Rugman & Verbeke's Competence Building Model for multi-national enterprises was published in Subsidiary-Specific Advantages in Multinational Enterprises (Rugman & Verbeke, 2001) and is a model for assessing patterns of competence building in MNE:s. The inputs are FSA type: location or non-location bound, geographic source: home country operation, host country operation network. The output is an assessment of the patterns of competence building in the MNE. The model claim to introduce ten capability-development processes which explain the learning processes in subsidiaries in multinational firms.
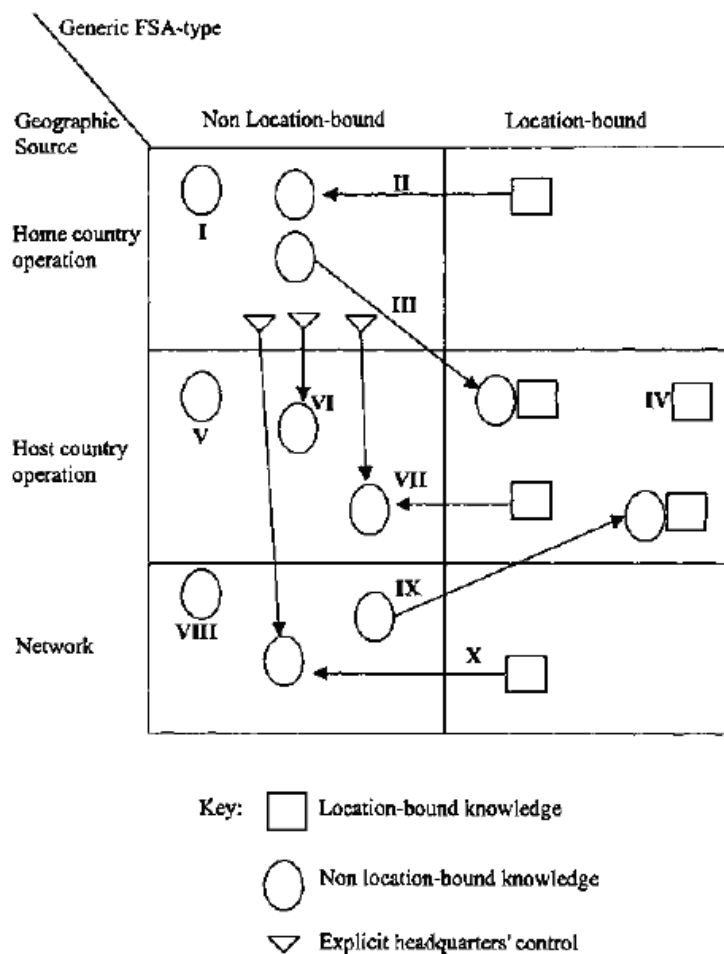
Figure 1. Ten patterns of FSA development in MNEs

Figure 17: Model N3C.
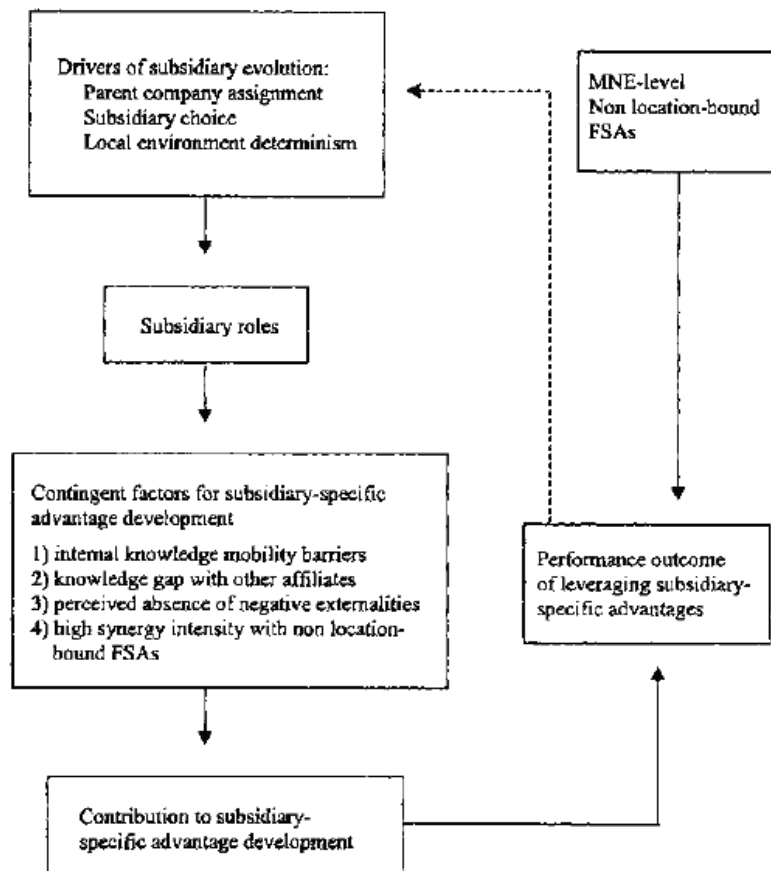
Figure 2.   The development of subsidiary-specific advantages

Figure 18: Model N3C

Findings from Textbooks and more Applied Journals

O3C -The Product/Core-competency Matrix (HBR)

The Product/Core-competency Matrix was published in "The Core Competence of the Corporation" (Pra-lahad & Hamel, 1990). It is similar to Wernerfelt's Product-resource matrix and claims to visualize the link between products and their respective core competencies. The model inputs are firm products and core competencies. The output is a map of what core competencies are used by what products.

Core Competencies at Canon

	Precision Mechanics	Fine Optics	Micro-electronics
Basic camera	■	■	
Compact fashion camera	■	■	
Electronic camera	■	■	
EOS autofocus camera	■	■	■
Video still camera	■	■	■
Laser beam printer	■	■	■
Color video printer	■		■
Bubble jet printer	■		■
Basic fax	■		■
Laser fax	■		■
Calculator			■
Plain paper copier	■	■	■
Battery PPC	■	■	■
Color copier	■	■	■
Laser copier	■	■	■
Color laser copier	■	■	■
NAVI	■	■	■
Still video system	■	■	■
Laser imager	■	■	■
Cell analyzer	■	■	■
Mask aligners	■		■
Stepper aligners	■		■
Excimer laser aligners	■	■	■

Every Canon product is the result of at least one core competency.

Table 10: Model O3C.

P1C -Grant's Resource Identification Framework

The Resource Identification Framework (Grant, 2005) is a tool for creating an inventory of tangible, intangible and human resources. Tangible resources are divided into the sub-categories financial and physical resources and intangible resources are divided into the sub-categories technological and reputational resources. The input is a set of key indicators such as: Debt/Equity ratio(F), OP Cash Flow/Free Cash flow (F), Credit Rating (F), Market value of fixed assets (P), Vintage of capital equipment (P), Scale of Plants (P), Flexibility of fixed assets (P), No of significant patents (T), Revenue from licensing, patents and copyrights(T), R&D staff as a percentage of total employment (T), No. and location of R&D facilities (T), Brand recognition (R), Brand Equity (R), % repeat buying (R), Objective measures of comparative product performance (R), Surveys of corporate reputation (R), Qualifications of employees (H), Compensation relative to industry average (H), % of days lost through stoppages and industrial disputes (H), Absentee rates (H), Employee turnover rate (H). The output is an inventory of a firm's resources within each category.

TABLE 5.1 Classifying and Assessing the Firm's Resources

RESOURCE	RELEVANT CHARACTERISTICS	KEY INDICATORS
Tangible Resources Financial Resources	The firm's borrowing capacity and its internal funds generation determine its resilience and capacity for investment	■ Debt/equity ratio ■ Operating cash flow/free cash flow ■ Credit rating
Physical Resources	Physical resources constrain the firm's set of production possibilities and impact its cost position. Key characteristics include: ■ The size, location, technical sophistication, and flexibility of plant and equipment ■ Location and alternative uses for land and buildings ■ Reserves of raw materials	■ Market values of fixed assets ■ Vintage of capital equipment ■ Scale of plants ■ Flexibility of fixed assets
Intangible Resources Technological Resources	■ Intellectual property: patent portfolio, copyright, trade secrets ■ Resources for innovation: research facilities, technical and scientific employees	■ Number and significance of patents ■ Revenue from licensing patents and copyrights ■ R&D staff as a percent of total employment ■ Number and location of research facilities
Reputation	■ Reputation with customers through the ownership of brands and trademarks; established relationships with customers; the reputation of the firm's products and services for quality and reliability ■ The reputation of the company with suppliers, government, and the community	■ Brand recognition ■ Brand equity ■ Percent of repeat buying ■ Objective measures of comparative product performance (e.g., Consumers' Association ratings, J. D. Power ratings) ■ Surveys of corporate reputation (e.g. *Fortune*)
Human Resources	■ The education, training and experiences of employees determine the skills available to the firm ■ The adaptability of employees contributes to the strategic flexibility of the firm. The social and collaborative skills of employees determine the capacity of the firm to transform human resources into organizational capabilities ■ The commitment and loyalty of employees determine the capacity of the firm to attain and maintain competitive advantage	■ Educational, technical, and professional qualifications of employees ■ Compensation relative to industry ■ Percentage of days lost through stoppages and industrial disputes ■ Absentee rates ■ Employee turnover rate

Table 11: Model P1C.

Q1C -De Wit & Mayer's System for Classification of Capabilities
De Wit and Mayer's (2004, p 279) System for Classification of Capabilities is a tool for spanning and clas-
sifying capabilities within the firm. Its inputs are divided into to categories: the outside processes, e. g.
market sensing, and the inside processes, e.g. financial control. Although the claim is not explicitly ex-
pressed, it is presented as a tool for spanning and classifying capabilities within the firm.

FIGURE 5.3.1 Classifying capabilities
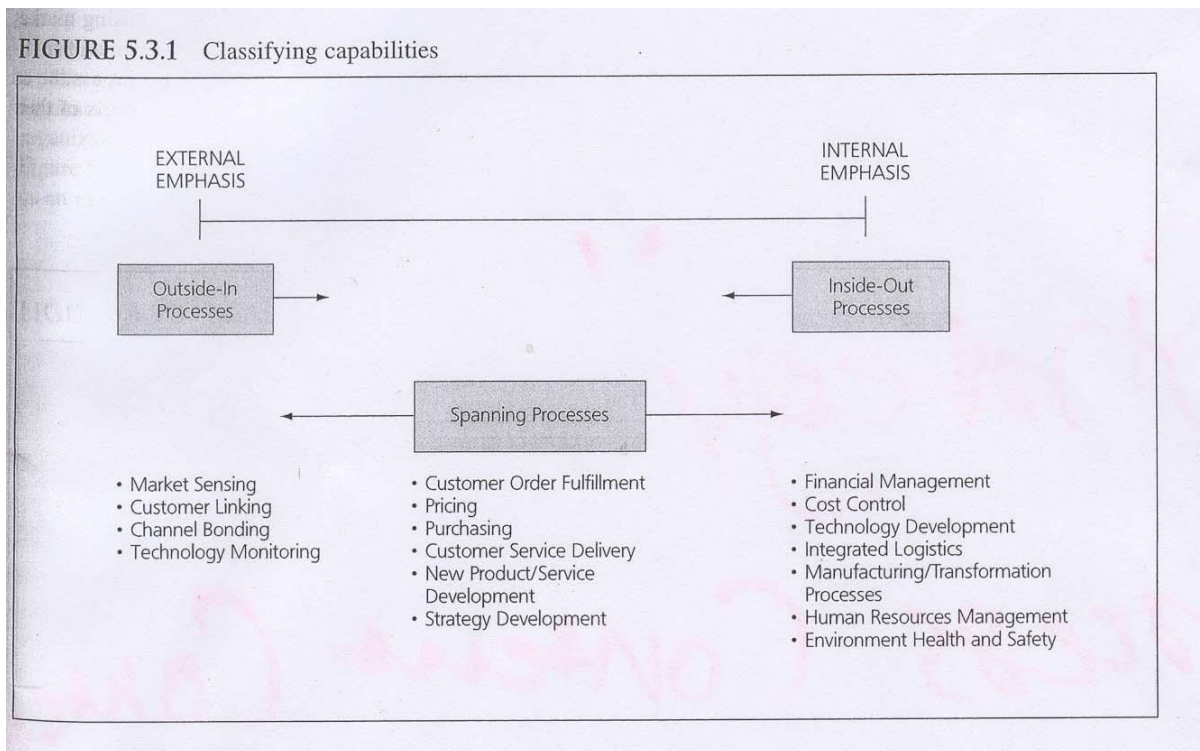
Figure 19: Model Q1C.

R2C -The Resource & Capability Gap Framework

The Resource & Capability Gap Framework (Grant, 2005) is a framework for highlighting resource and capability gaps through firm's key strengths and weaknesses relative to the industry. The model inputs are Resources (R), Capabilities (C), the firm R&Cs' strengths and R&Cs' relative importance in the industry. The output is a map of resource and capability gaps: superfluous strengths, key strengths and key weaknesses.

TABLE 5.5 Appraising VW's Resources and Capabilities

	IMPORTANCE[1]	VW'S RELATIVE STRENGTH[2]	COMMENTS
RESOURCES			
R1. Finance	6	4	VW's capital investments exceed operating cash flows. Debt/equity ratio is high relative to other major auto companies
R2. Technology	7	5	Despite technical strengths, VW is not a leader in automotive technology
R3. Plant and equipment	8	8	Has invested heavily in upgrading plants
R4. Location	7	4	Plants in key low-cost, growth markets (China, Mexico, Brazil), but German manufacturing base is very high cost
R5. Distribution (dealership network)	8	5	Geographically extensive distribution with special strength in emerging markets. Historically weak position within the US
CAPABILITIES			
C1. Product development	9	4	Traditionally weak at VW. Major hits are few: Beetle (introduced 1938), Golf (1974), Passat (1974), Vanagon (1979). Despite recent upgrading and proliferation of new models, product development still weak compared to Toyota
C2. Purchasing	7	5	Traditionally weak – strengthened by senior hires from Opel and elsewhere
C3. Engineering	7	9	The core technical strength of VW
C4. Manufacturing	8	7	Problems of inflexibility, and indifferent quality largely resolved during 1990s
C5. Financial management	6	3	Has traditionally lacked a strong financial orientation
C6. R&D	6	4	A comparative strength of VW, but becoming less important as technology shifts increasingly to suppliers
C7. Marketing and sales	9	4	Despite traditional weakness in recognizing and meeting customer needs in different national markets, VW has increased its sensitivity to the market, improved brand management, and managed its advertising and promotion with increasing dexterity
C8. Government relations	4	8	Important in emerging markets

[1] Both scales range from 1 to 10 (1 = very low, 10 = very high).
[2] VW's resources and capabilities are compared against those of GM, Ford, Toyota, Honda, Chrysler, Nissan, Honda, Fiat, and PSA, where 5 represents parity. The ratings are based upon the author's subjective judgement.

Table 12: Model R2C.

FIGURE 5.9 Appraising VW's resources and capabilities (hypothetical)

Note: The table is based upon the ratings of resources and capabilities in Table 5.5.
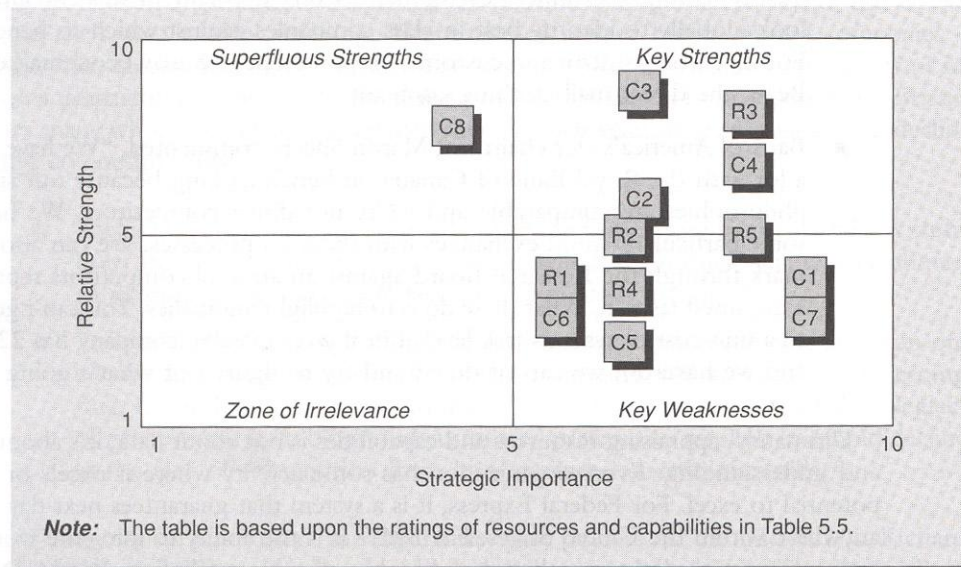
Figure 20: Model R2C.

S2C -Fleischer and Bensoussan's Five Tests of Competitive Value

Fleischer and Bensoussan's (2004, p 209) Five Tests of Competitive Value is a model for testing the competitive value of competencies. Its inputs are information about the competencies degree of competitive superiority in terms of their inimitability, durability, appropriability and substitutability. Its claim is evidently to test the competitive value for capabilities.
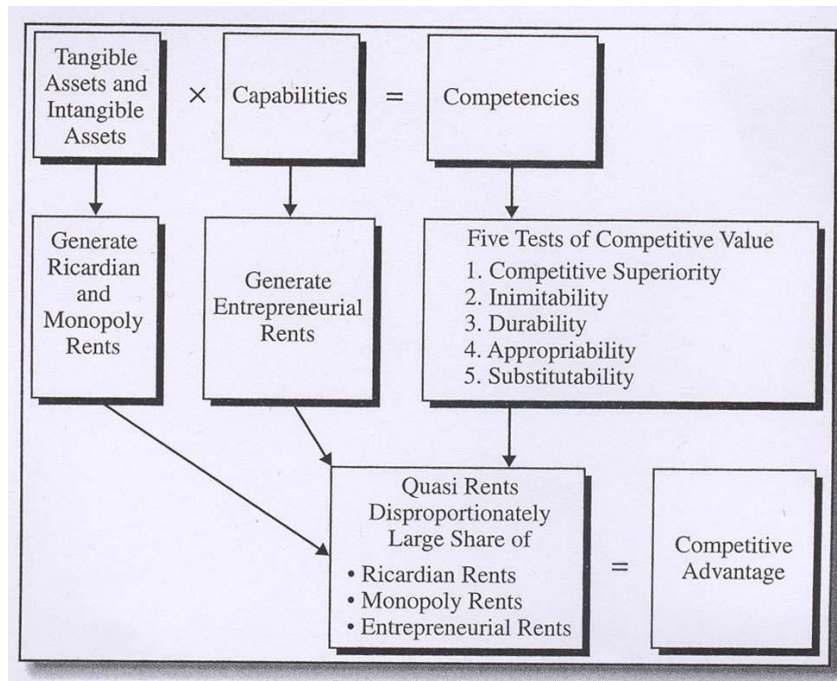
Figure 21: Model S2C.

T3C -Triangle of Corporate Strategy

The Triangle of Corporate Strategy (Collis & Montgomery, 1998) is a framework for analyzing the fit and alignment of the elements of corporate strategy. The inputs are a firm's configuration of resources, the business units' market position, the organization, the coordination of resources (i.e. the fit between organization and resources), the competitive advantage (i.e. the fit between resources and business units) and the control (i.e. the fit between business units and organization). More specifically these elements could be viewed in terms of nature of resources (generalized or specialized), scope of businesses (wide or narrow), the coordination mechanism, control system (transferring and sharing) and the corporate office size (financial or operating). The output is to what degree the different elements of corporate strategy are aligned.
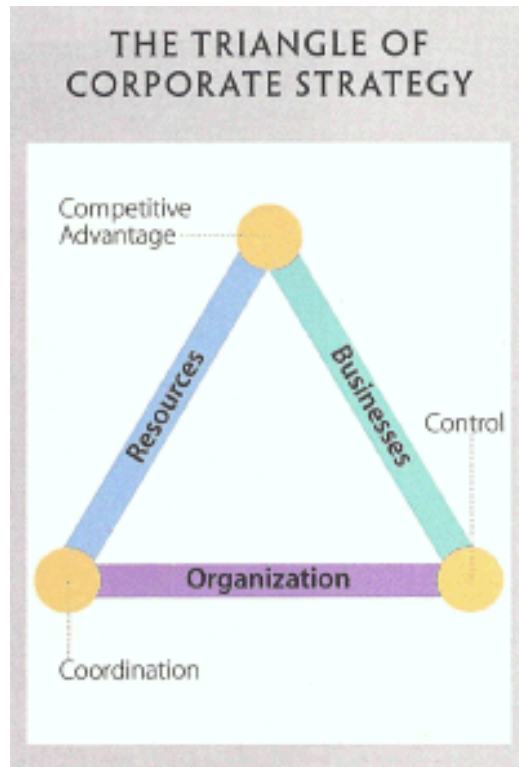
Figure 22: Model T3C.

U3C -The Core Capabilities Matrix

The Core Capabilities Matrix was published in "How to Link Vision to Core Capabilities" (Schoemaker, 1992) and is a framework for linking core capabilities, strategic segments and various competitive scenarios in order to develop strategic direction. Its inputs are potential scenarios, firm core competencies and strategic segments. The output is inferences on strategic direction and the importance of different core competencies in various scenarios. The model claims, as stated in the article headline, to link the visionary content to what capabilities that must be developed for that vision.

Figure 1 A Core Capabilities Matrix for Apple

Strategic Segments	Scenarios		
	Stagnation and Saturation	Computer Confusion	Computer Cornucopia
Home	h, c, b, d	c, b, h, d	b, c, a, d
Education	c, h, d, e	c, d, h, a	d, c, e, b
Business	a, f, e, c	e, f, a, d	f, a, e, d
Workstations	g, d, e, a	d, g, h, e	d, f, g, b

Note: The top four capabilities are ranked within each cell in order of relative importance.

Legend for Core Capabilities: **Frequency of occurrence**

a.	Highly knowledgeable salesforce	6
b.	Access to distribution channels	5
c.	User friendliness in product development	7
d.	Availability of software and peripherals	11
e.	Compatibility/integrative product line	7
f.	Professional image — quality and reliability	4
g.	Use of new and innovative technology	3
h.	Low-cost position in manufacturing	5

Table 13: Model U3C.

Distribution of Models Found

The distribution of models found show that the group with models from less applied sources dominates in numbers. We find that it is difficult to reach significant conclusions based on this distribution, due to the less extensive review of textbooks. However, when combined with the results from the categorization based on analytical chronology, these findings become more important.

Distribution of Models Found

A bar chart showing the distribution of models found. The vertical axis ranges from 0 to 16 in increments of 2. "Academic Sources" shows a value of 14. "Textbooks and Journals for Practitioners" shows a value of 7.
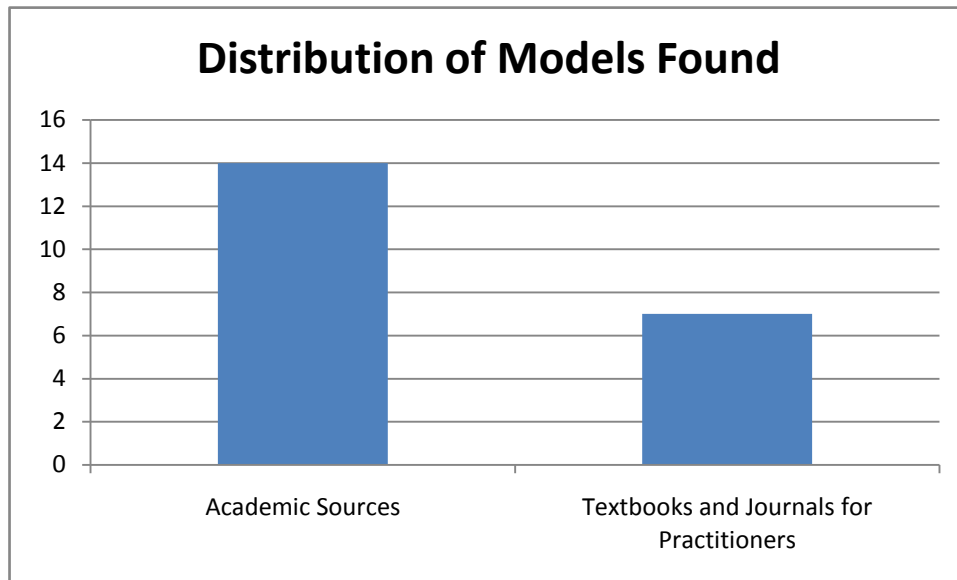
Figure 23: Distribution of found models with regard to sources.

(Note that the "Academic sources" refers to less applied sources, and should not be read literally since there are academic sources in both groups.)

Classification and Analysis

Classification of Analytical Chronology

After the above presentation of the models as well as analysis we will now relate the components with the analytical chronology established in the theory section.

The Relationship between Analysis and Analytical chronology

The first to address when classifying the models with regard to analytical chronology is to clarify the conceptual relationship between the analyzed components and the established chronology. To understand this relation we take a closer look at the analytical chronology in the Methodology chapter. The three steps in the structure we call the analytical chronology are to first identify key resources and capabilities, and then appraise the same, followed by developing strategy implications. We will therefore firstly match the explanatory claim with the description of the analytical step, and after that control the terminological consistency in the classification by relating input and output to the analytical step.

Models in the First Step: Identifying Key Resources and Capabilities

The two models (Cf. P1C; R2C) found to focus on the identification of resources and capabilities are both found in Grants textbook. Even though there are clear differences between the models it can be argued that they are different sides to the same coin since one of them classify resources and the other capabilities. The model for defining and classifying resources has three general categories in which all resources fall into; tangible resources, intangible resources and human resources. The model is presented with clear examples of what each category constitutes of and what the purpose with it is.

The hierarchy of capabilities model is a way of identifying and breaking down what capabilities that constitute a more general capability. This is done from the level of cross-functional capability all the way down to single-task capability. The model is a way of defining the capabilities of interest, and is not focused on the valuation or implications of capabilities, and therefore it is concluded to belong to the first category.

The third model (Q1C) in the first category of the analytical chronology is developed by De Wit & Mayer (2004) and found in the textbook "Strategic & Competitive Analysis" and defines capabilities from an inside-out or outside-in perspective. That is, whether the capabilities are out-side in oriented, such as market sensing and customer linking. This model is therefore a way of defining and organizing the capabilities for the assessment and valuation that comes in step two.

The lack of models in this step of the analysis raises the question whether the criteria for what constitutes a model is applicable to all three steps of our defined analytical chronology. It could be argued that the criteria for models should be relaxed or redefined to capture the true number of "models" that define resources. The phenomenon is noted for now, and will be investigated further in the latter parts of the analysis and discussion.

Models in the Second Step: Appraising Resources and Capabilities

One of the models that most obvious belong to the second category is Barney's VRIS-model (B2C). In this article Barney presents a model with four steps where resources are assess whether they are valuable, rare, inimitable and substitutable. If a resource is found to qualify to all the requirements it is to be regarded as contributor to the firm its sustainable competitive advantage. This sustainable competitive advantage is supposed to be the base of further strategic decision and planning. In the case of this model, there is very little doubt that it belongs to the second step of assessing resources, and to some extent it can be argued that it even constitutes the typical step two models with its clear focus on resource assessment.

The second model (C2C) that qualifies as a second-step-analysis is the one found in the Black and Boal (1994) framework for assessing bundles of resources. This model has similar traits to Barney's VRIS model (B2C) in the sense that it has a number of sequential criteria for classifying whether a resource has potential support to a competitive strategic advantage or not. One major difference is though that Black and Boal group resources into bundles and argue that the relation between resources is important to consider when assessing the importance of a resources. The model claims to assess production factors contribution to the potential for competitive strategic advantages, and the input is different properties of the relations between resources and factors. It should also be mentioned, that even though this model focus on the assessment of bundles of factors and resources, it also entails a definition of what a resource is regarded to be. This definition is not found by us to be a separate model, but could be argued to be a pre-stage of the resource assessment. If one would, as suggested above under the step one analysis of the analytical chronolgy, relax the requirements for what constitutes a model for step one, it could be argued that the Black and Boal model (C2C) actually capture both first and second step of the analysis. However, we will for now stay with our originally defined criteria for what constitutes a model, and return to an evaluation of the definitions and method in the latter parts of the thesis. Hence, our conclusion is that the model is a fairly clear example of a step two analysis. The third model (D2C) found to be a step-two-model is a contribution of Peteraf (1993) to present a common framework for resource-based view and bridge over the differences in terminology, techniques and concepts. The model mainly addresses the assessment of a resource with regard to its ability to generate rents, and through that the resource's potential to strengthen the firm's competitive advantage. The explanatory claim is therefore an assessment of each resource contribution to firm's competitive advantage through the input of information about the resource heterogeneity, ex post and ex ante limits to competition as well as the degree of mobility of the resource. It is therefore obvious that the model has best fit with the second step of the analytical chronology.

The fourth article is written by Hall (1999) and develops a framework (E2C) connecting intangible resources and capabilities with competitive advantage. What is important to note here is that this article does not include tangible resources in the same way that the previous models have done. The article's claim is to identify the intangible sources of sustainable competitive advantage, which is argued to stem from differentials in regulatory, positional, functional and cultural capabilities. In this models just as the

above mentioned, the claim to assess resources is fairly obvious that it belongs to the second step in the analytical chronology.

The fifth article in the second analytical step is found in Helfat and Peteraf's article (2001) about the capabilities lifecycle. This model (F2D) is somewhat different to the other models in this category, mainly because it focuses on the development of capabilities over time, that is, dynamic capabilities. Furthermore, it is more a model of classification of capabilities and how they develop over time, rather than an assessment of what kind of capabilities that are more valuable than others. The claim of the model is also to present what alternative possible branches that might occur after a capability have matured. Strictly speaking is this model not a perfect match with the second step in the analytical chronology, since the second step is defined as *"appraisal against two criteria; the resources importance, and assessing where we have our relative strengths compared to our competitors."*. What the mentioned model more correctly described does is to classify and sequence, but without the valuation that is implied in the description of the second step. In other words, this model gives a classification of the supply side capabilities but offers no tool for the demand side capabilities. Why the model still can be argued to belong in the second analytical step is that it is unclear whether models need to be both assessing and valuing to be regarded as a second step model. We argue that the classification of resources and capabilities might not be the whole step, but a sufficient part.

The sixth model (R2C) in the second step is found in Grant's book Contemporary Strategy Analysis (2005 p 158) and highlights the relation between what resources that are of strategic importance in the industry and which resources the firm has. Through a simple graph the user can classify where the company has its key strengths and its key weaknesses as well as if it continues to sustain superfluous resources. This model has its origin in Amit & Shoemakers model (J3C) in a slightly different version without the element of valuation of resources (see below step three in analytical chronology).

The seventh model (G2C) developed by Chen & Li (2006) is a model for classifying and valuing technology resources in firms. It makes explicit references and builds upon work of scholars such as Barney (1984) and Peteraf (1993) (Cf. B2C; D2C), which both are found in the second step. What makes it a clear fit with the criteria for the model in the second step is that it evaluates the resources whether they are valuable, rare, hard-to-copy and non-substitutable. What makes this model different from Barney's VRIS analysis is that this model has the intent to expand the RBV with technology venture theories.

The eighth model (S2C) by is presented by Fleisher & Bensoussan in the textbook Strategy – Process Content, Context and is a series of tests to test whether a resource is strategic or not. The four tests are whether the resource has competitive superiority, inimitability, durability, appropriability and substitutability. It has many similar traits with Barney's VRIS model (B2C) and is presented as an alternative method to it in the book. Hence, it is a step two model.

Models in the Third Step: Developing Strategy Implications
The third and last step is to manage to exploit the key strengths found in earlier steps as well as managing key weaknesses.

The first model (U3C) found to fit this category is Shoemakers core capabilities matrix that is an application of scenario analysis with implications on resources and capabilities. The model starts with an evaluation of different business scenarios and then proceeds to what the chosen scenario will imply in terms of resources and capabilities to develop. What makes this model special is that though it has a clear resource-based view on strategy, it gives more emphasis to where the firm would like to go rather than what resources the firm have today. It makes use of a step two analysis, but adds a visionary perspective through the use of a scenario method that is generally not as emphasized in other models as in this one. The strategic implications are therefore more a function of the vision than the current resources.

The second model (M3C) in the third step is Hillman & Hitt's model over corporate political strategy formulation. This model illustrates what decisions firms must make to respond to political activity that might affect the firm's environment and operations. The model is not a clear-cut third step model, since the output of the model gives information about the necessary resources the firm needs to acquire. It can therefore be argued, that this model does not give the implications of a certain set of valuable resources, but rather explains what resources to acquire given a certain set of strategic considerations. Even though this model meets our criteria for the selection, we can conclude that its application is rather narrow and attends only to one strategy aspect, the political, in business environment.

The third model (T3C) found in the third category is Collis & Montgomery's strategy triangle. This model presents a type of interface between resources, business and organization. It is a conceptual model that highlights the relation between the organization, resources and business to bear in mind when working with corporate strategy and to achieve strategic alignment. To judge whether the firm's strategy is strategically aligned, the authors suggest classification of the firm along five dimensions, where for example nature of resources is classified on a continuous scale between general and specified. This model is regarded as a step three model since it continues where the second step left off. It addresses the strategic implication in the sense that it adds the dimensions of organization and business to make the strategy more holistic and not just based on a resource perspective.

The fourth and fifth models (H3C; I3C) are found in Wernerfelt's original article form 1984 where he lays important pieces to the foundation that later developed to the resource-based view. In this article the illustrates first an example how firms can map what resources can be used in what markets and how these resources can serve as stepping stones for diversification into new markets. These two models, the resource product matrix (H3C) and the stepping stone model (I3C), can be used independently from each other as well as sequentially but both address the strategic implications when resources have been mapped and evaluated. It is obvious that they both belong to the third step of the analytical chronology.

The sixth model (O3C) in the third step is Pralahad and Hamel's (1990) core competency matrix. This matrix relates products with their respective competencies. By visualizing what product is based on what core competence a firm can easily evaluate if new suggested products make benefit of current core competencies (i.e. resources), and through that, if the new product is strategic or not. Hence it is clear that the model address the implications of core competencies on the product portfolio.

The seventh model in this category is Birkinshaw & Wood's model (K3C) for identifying evolutionary processes in subsidiaries from a dynamic capabilities perspective. This model shows the relation between certain contexts, actions and relations between firms and their subsidiaries and how a set of combination of those affects the development of dynamic capabilities. This model visualize likely strategic implications given a set of circumstances and is therefore more of a diagnose tool what strategic implications are likely to emerge, rather than a constructive tool for action of what one might do given a certain context.

The eight model classified in this category is Rugman & Verbeke's model (L3C) for dealing with environmental regulations when formulating the corporate strategy. The model helps managers weigh the contribution of building environmental related resources and capabilities against the risks of such decisions. Its place in the third step is therefore justified by its illustration of the strategic context in which managers need to decide upon environmental regulations, which have strong impact on the implications of the decision. It should be noted that this model is rather specific in its address of strategic issues, and that it does not have same general strategic approach as most other models in the selection.

The ninth model (N3C) in the third category is also developed by Rugman & Verbeke, but with a more focus on general corporate strategy in this model. This model assesses the pattern that subsidiaries in multinational enterprises build competencies and capabilities, and the assessment is done by classification of ten typical development processes. The article in which the model is introduced has therefore to a large extent a similar focus as Birkinshaw & Wood's (K3C) article presented above. As in the case with Birkinshaw & Wood this model (K3C) is more of a conceptual model to diagnose a likely development and through that derive the strategic implications.

The tenth and last model found in the third category actually have a lot in common with one of the models found in the second step. In Amit & Shoemakers article from 1993 the authors introduce a model (J3C) where they relate the firms' strategic assets with what is regarded as key success factors in the industry the firm is active in. Grant later takes this model and adds a preceding step of valuation of the resources, and therefore creates a model (R2C) with better fit in the second step. This model's place in the third step in the analytical chronology is mainly motivated by the fact that it takes the strategic assets as given, and relates these found assets (which would be found by the usage of a step 2 model) to the industry success factors.

Number of Identified Models (Classical RBV)
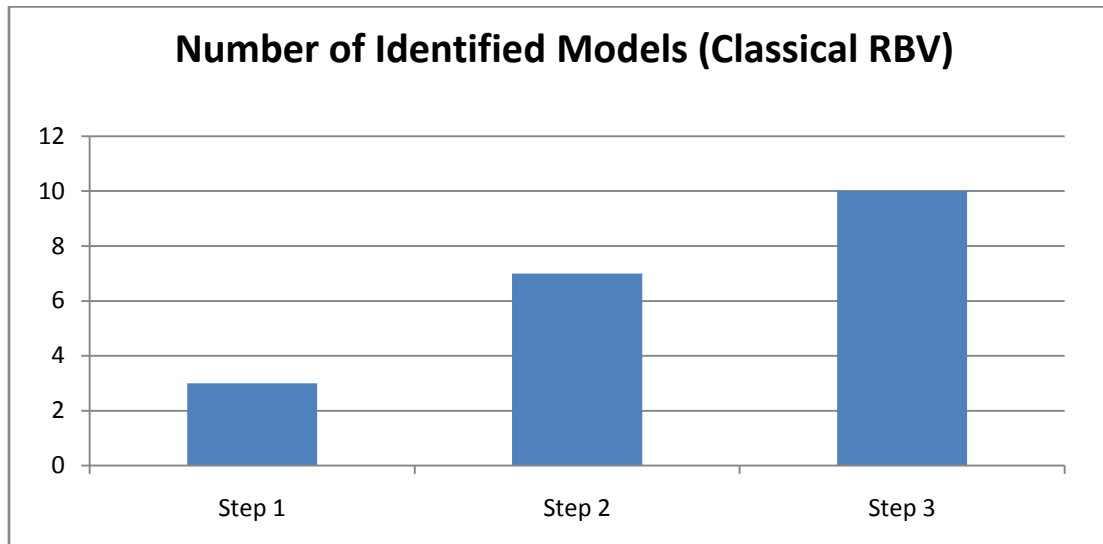
Figure 24: Distribution of classic RBV-models with regard to analytical chronology.

Number of Identified Models (Dynamic)
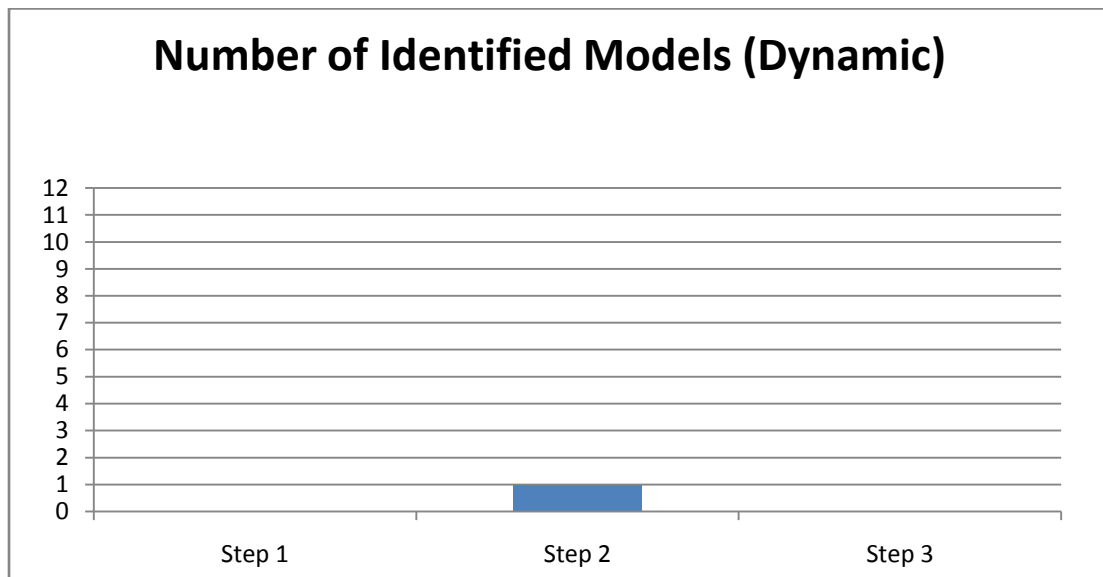
Figure 25: Distribution of dynamic capabilities models with regard to analytical chronology.

The distribution of models above is also sorted with regard to theoretical sub stream that is introduced in a section below.

Analysis of Analytical Chronology

The analytical chronology has served as framework for classifying the models based on their explanatory claim (type) and is in turn enabling us to analyze the models' consistency and complementarity in this regard. The analysis of the analytical chronology will first treat the identified distribution of models per se and highlight issues related to the distribution. Thereafter, we are treating the consistency and complementarity of the models within and between each step of the analytical chronology.

The first issue relating to the distribution of models is that there are few models in the first step of the analytical chronology. One would presume that this could be because of a relative academic consensus of the basic aspects of resource-based view, such as definition of what a resource is. As stated in the theory section, this is though not the case, quite the contrary. There exists no generally accepted definition of what actually constitutes a "resource" and this is noted by critics of the perspective as one of the most serious problems with the resource-based view (Priem & Butler, 2001, p 32). In the context of practical and conceptual models of the resource-based view it is remarkable that so few models can be presented, since finding the resources inevitably must be a step that comes before the development of strategic implications. It seems that most authors of models in step two and three of the analytical chronology take the identification more or less as implicit.

The lack of models in the first step could, however, be explained by looking closer at the basic traits and assumptions of the resource-based view. As stated in the theory section, two of the most important assumptions are that resources are heterogeneously distributed between firms, and that insiders of firms are the ones that have the best possibility to identify internal resources due to the causal ambiguity and inheritably internal perspective on the firm. In combination, these assumptions imply that if anyone can identify resources in a firm, it is the insiders, and given the heterogeneity of resources, one cannot assume that two firms (competitors) are using the exact same set of resources. The resources that make a certain firm generate better rent than its competitors might be a unique resource or capability that barely the management knows about, due to the complexity in the relation between generated rents and resources (causal ambiguity). Therefore, if resources are different in all firms and the ones that have reasonable ability to identify resources are the insiders, it can be argued to be somewhat problematic for outsider scholars to suggest general models for identifying them.

Another aspect of the first step is also noted: almost all models found in step one, are found in sources for practitioners (textbooks or more applied journals). This might be an implication that the theoretical difficulties to develop a conceptual model for what a resource is has resulted in that it is only in the sources where the authors are expected to present a full applicable resource-based framework where step one models are to be found. This is logical since the sources that are directed towards practitioners must solve the problem with definition of resources for the resource-based perspective to be useful and applicable for practitioners.

A second aspect of the distribution of models in the analytical chronology is the fact that there are more models the latter the step is in the chronology. The difficulties with step one is elaborated above, but how come there are more models in step three than step two? Priem & Butler (2001, p 32) argue that the resource-based view is weak when it comes to generate strategic implications contrary to what we've found. However, we note that it may not be very surprising that we have found more models in the step of strategic implications. The reason is that it due to the resource heterogeneity assumption it ought to be most difficult to find resources and decide which ones that are truly strategic. Once you know which these resources are, it should be not too difficult to find ways how to make money on them. Our conclusion is therefore that one possible cause behind the large amount models in the third step is simply that the strategic implications is less difficult to model, compared to how to find heterogeneous and immobile resources and capabilities in firms. An alternative approach to the same issue is that scholars have been focusing on developing models for strategic implications because they generally share Priem & Butlers conclusion of where RBV is weak, and addressed this weakness in hope of significantly improving the prescriptive properties of the view. Though this approach seem less likely due to the fact that Priem & Butlers criticism has not passed undisputed, and several of the scholars that have developed models for strategic implications have also argued against Priem & Butler's conclusions.

A third aspect of the distribution of models is the framework we have used for classifying the models. The definition of what a model is in relation to how the steps in the analytical chronology are defined, might not be fully compatible. In the framework for analytical chronology we implicitly assumed that all three steps consisted of models that fit our definition of model. It is possible that the first step in the analytical chronology might have a poor internal fit with the definition of model. It is plausible that what the first step should consist of is not a model, but more a methodology or a clear-cut resource definition. More than one author has suggested resource definitions along with their models, but these have not been included in our survey due to the lack of model-properties. In retrospect, this might have been an important factor behind the difference in number of models found in step one in relation to step two and three.

On a model level we should note that the distribution of models in the analytical chronology is revealing the number of models existing in each step. In step 1 these models are P1C, A1C, and Q1C. In step 2 they are: B2C, E2C, G2C, C2C, D2C, R2C, S2C and F2D. In step 3 the models are L3C, N3C, H3C, I3C, T3C, J3C, K3C, M3C, U3C and O3C.

	Step 1 (Identification)	Step 2 (Valuation)	Step 3 (Implications)
The Models	P1C; A1C; Q1C	B2C; E2C; G2C; C2C; D2C; R2C; S2C F2D	L3C; N3C; H3C; I3C; T3C; J3C; K3C; M3C; U3C; O3C

Figure 26: Models in Analytical Chronology Table

Moreover, each step in the analytical chronology is representing a type of model that can be combined with the models in the other steps with regard to their explanatory claim. Hence, the distribution of models is itself revealing what models can be combined, i.e. are complementary. The models in step 1 (identification) can be combined with or complemented by the models in step 2 (valuation) and the models in step 2 (valuation) can be complemented by the models in step 3 (implications). This is an important contribution, as it is explicitly stating to what extent and how these models are complementary.

Classification of Theoretical Sub-stream

Classifying the found models into the principal theoretical streams will enable us to establish an understanding for the differences between the classic and the dynamic capabilities view of RBV. As previously stipulated, the proxy selected for distinguishing dynamic capabilities sub-stream from the classical resource based view is the Teece et al (1997) definition of dynamic capabilities as opposed to strategic resources and capabilities:

"*We define dynamic capabilities as the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments*." (Teece et al, 1997, p 516)

It should be noted that this definition views competences as non-dynamic capabilities, i.e. what the classical resource based scholars often refer to as capabilities. The distinction is precise as dynamic capabilities are the type of capabilities that integrate, create or reconfigure other capabilities. Reviewing the found models based on this definition will hence enable a classification of theoretical adherence.

The result of this classification is presented divided into the two categories: models belonging to the classical resource based view and the models belonging to the dynamic capabilities sub-stream. For each category, the rationale behind the classification is presented for every model. Twenty models were found to belong to the classical RBV and one was belonging to the dynamic capabilities perspective. The classical RBV models are presented first followed by those based on dynamic capabilities.

Models in the Classical Resource-based Sub-stream

P1C -Grant's (2005) Resource Identification Framework

Grant's (2005) resource identification framework is a tool for creating an inventory of tangible, intangible and human resources. As Grant (2005, p. 138 and 144) is separating the identification of resources and capabilities, it is to no extent treating capabilities. Per definition this excludes adherence to the dynamic capabilities sub-stream. Grant's (2005) Resource Identification Framework is therefore belonging to the classical resource based view.

A1C -The Hierarchy of Capabilities

The Hierarchy of Capabilities is a tool for visualizing capabilities in functions and activities, facilitating the identification of capabilities. This entails the treatment of capabilities but Grant is defining [organizational] capabilities as the "*firm's capacity to undertake a productive activity*" (Grant, 1996 p 376; 2005, p 144) which is not consistent with the definition of dynamic capabilities. It pertains therefore to the classical resource based view.

Q1C -De Wit & Mayer's Tool for Classifying Capabilities

De Wit & Mayer's (2004, p 279) tool for Classifying Capabilities is designed for the spanning of capabilities within a firm. The type of capabilities treated is neither related to *integration, building nor reconfiguration of existing capabilities.* It belongs hence to the classical RBV.

R2C -Grant's (2005) The Resource and Capabilities Gap Framework

Grant's (2005, p 159) The Resource and Capabilities Gap Framework follows Grant's definition of capabilities as the "*firm's capacity to undertake a productive activity*" (2005, p 144). It is not consistent with Teece et al (1997, p 516) and belongs therefore to the classical RBV.

B2C -The VRIS-Model

Barney's (1991) VRIS-Model is based on the definition that *"firm resources includes all assets, capabilities, organizational processes, firm attributes, knowledge, etc controlled by a firm that enable the firm to conceive of and implement strategies to improve its efficiency and effectiveness"* (Barney, 1991, p 101.). This definition is broad (Cf. Foss, 1997, p 11) and it could be argued that it includes dynamic capabilities, since it is not contradicting Teece et al's (1997, p 516) definition. However, it is not expressly mentioning the concept of dynamic capabilities and Barney is considered one of the founding fathers of RBV (Priem and Butler, 2001, p 23). Therefore, in spite of its potential compatibility, we classify it as part of the classical RBV.

D2C -Peteraf's Resource and Capability Appraisal Model

Peteraf's Resource and Capability Appraisal Model is based on the conception of resources and capabilities. Peteraf (1993) is not specifically treating dynamic capabilities and is not attributing much weight to the character of capabilities, stating, "current capabilities may both impel and constrain future learning

and investment activities" (Peteraf, 1993, p 182). Peteraf's Resource and Capability Appraisal Model is therefore belonging to the classical resource based view.

E2C -Hall's Framework for Intangible Resources and Capabilities

Hall's (1999) Framework for Intangible Resources and Capabilities is, as projected by its name, focusing on intangible resources and capabilities. The adopted definition of capabilities (Hall, 1999, p 609) is neither including capabilities as the *ability to integrate, build, and reconfigure internal and external competences* nor is it discussing the concept of dynamic capabilities. It is therefore belonging to the classical resource based view.

G2C -The Technology Resources Assessment Model

The Technology Resources Assessment Model (Yiche Chen and Yan-Ru Li, 2006) is based on a broad and perhaps unspecific definition of capabilities (Yiche Chen and Yan-Ru Li, 2006, p 322). The article is mentioning the dynamic capabilities of Teece et al (1997), but is not consistently applying the definition in the model construction. It should therefore be considered as part of classical RBV.

S2C -The Five Tests of Competitive Value

The Five Tests of Competitive Value (Fleisher and Bensoussan, 2004, p 209) is a test for the value of competencies. It views competencies as the product of tangible resources and capabilities. This concept is not specifically building on Teece et al (1997) and is therefore considered classical RBV.

C2C -The Black & Boal-model

Black & Boal-model (Black & Boal, 1994) is aiming at valuing resources and capabilities based on their network of relationships in order to determine whether they lead to high or very high support of sustainable competitive advantage. The underlying article is not treating dynamic capabilities, but is relating the resources, capabilities and competencies to their adherence to networks of other resources, capabilities and competencies. The more embedded they are in the network the higher is the likelihood of support for sustainable competitive advantage. Consequently, it is not treating capabilities, which are integrating, building or reconfiguring other capabilities. It is thus belonging to the classical RBV.

T3C -The Triangle of Corporate Strategy

The Triangle of Corporate Strategy (Collis & Montgomery, 1998) is based on a broad capability definition, similar to that of Barney (1991, p 101), including capabilities in firm resources: "*the firm's resources - its special assets, skills, and capabilities*" (Collis and Montgomery, 1998, p 72). It is thus belonging to the classical RBV.

H3C -Resource-product Matrix

The Resource-product Matrix (Wernerfelt, 1984) is based on a wide resource definition that specifies that "*by a resource is meant anything which could be thought of as a strength or weakness of a given firm*" (Wernerfelt, 1984, p 172). This definition is not specifically treating capabilities and to a lesser extent dynamic capabilities. It is thus belonging to the classical resource based view.

I3C -The Stepping Stone Model

Just as the Resource-product Matrix (Wernerfelt, 1984), the Stepping Stone Model is based on Wernerfelt's wide definition of capabilities as resources (Wernerfelt, 1984, p 172). This definition is not specifically treating capabilities and to a lesser extent dynamic capabilities. It is thus belonging to the classical resource based view.

O3C -The Product/Core-competency Matrix

Pralahad and Hamel (1990) are linking products to core competencies. In their definition of core competencies they include for example organizational learning, coordination of production skills and integration of technology streams, communication, involvement and deep commitment to working across organizational boundaries. Another important part of the definition is that core competencies do not diminish with use (Pralahad and Hamel, 1990, p 82). The core competence could be seen as a form of capability (Cf. Foss, 1997, p 11), that is coordinating other capabilities, but it is ambiguous as to whether they have the "*ability to integrate, build, and reconfigure* them." In addition, the concept of dynamic capabilities is not expressly treated in the article. It should therefore be considered part of the classical RBV.

U3C -The Core Capabilities Matrix

The Core Capabilities Matrix (Schoemaker, 1992) is linking core capabilities, strategic segments and various competitive scenarios in order to develop strategic direction. It is not specifically defining core capabilities apart from stating that *"a core capability (or competence) is not a stand-alone, sellable service or commodity. Examples of potential core capabilities include high-quality manufacturing, good supplier relations, service excellence, innovation, short product development cycles, and a strong service reputation."* (Schoemaker, 1992, p 75). It is not treating capabilities and abilities that *integrate, build, and reconfigure internal and external competences*, and it can subsequently be inferred that it belongs to the classical resource based view.

J3C -The SIF-SA Model

The SIF-SA Model (Amit & Schoemaker, 1993) is connecting Strategic Industry Factors with Strategic Assets (Resources and Capabilities). It is not treating dynamic capabilities and is based on the following definition of capabilities: "*Capabilities, in contrast, refer to a firm's capacity to deploy Resources, usually in combination, using organizational processes, to affect a desired end. They are information-based, tangible or intangible processes that are firm specific and are developed over time through complex interactions among the firm's Resources"* (Amit & Schoemaker, 1993, p 35). It is therefore reasonable to classify the SIF-SA Model as belonging to the classical resource based view.

L3C -Rugman and Verbeke's Environmental Regulations Framework

Rugman and Verbeke's (1998) Environmental Regulations Framework is not specifically treating dynamic capabilities and is excerpting the foundations for the capabilities (competencies) definition from inter alia Barney (1991, p 101) and is vaguely stating that "they [competencies] may include assets, human skills and organizational processes and they must be bundled into capabilities to form specific value-added activities." Rugman and Verbeke (1998, p 367). It is hence belonging to the classical RBV.

M3C -Hillman & Hitt's Corporate Political Strategy Framework

Hillman & Hitt's (1999) Corporate Political Strategy Framework is a framework for political strategy formulation and navigation in the political policy process. The underlying article is neither specifically treating dynamic capability nor is it providing a distinct definition of capabilities. It is therefore considered to belong to the classical resource based view.

N3C -Rugman & Verbeke's Competence Building Model for MNEs

Rugman & Verbeke's (2001) Competence Building Model for MNEs is assessing patterns of competence building in MNEs. The underlying article is neither specifically treating dynamic capabilities nor is it providing a precise definition of resources and capabilities, except for stating that "firm-specific advantages cover a very broad set of unique company strengths (competencies and capabilities)" Rugman and Verbeke (2001, p 238). It is therefore considered part of the classical resource based view.

K3C -The Capability Evolution Process Model

Birkinshaw and Hood (1998) Capability Evolution Process Model is a model for identifying five generic capability evolution processes in subsidiaries. It is specifically treating the dynamic capabilities' perspective (Birkinshaw and Hood, 1998, p 791) and the capability evolution is closely linked to dynamic capabilities view of Teece et al (1997). The similarities with the dynamic capabilities perspective are also recognized by Birkinshaw and Hood:

"Subsidiary evolution, we argue, is the result of an accumulation or depletion of capabilities over time. In this respect we are very close to the dynamic capabilities perspective of Nelson and Winter (1982), Dierickx and Cool (1989), Kogut and Zander (1992) and Teece et al (1997), in that we are concerned with the "mechanisms by which firms accumulate and dissipate new skills and capabilities" (Teece et al., 1997, p 19). (Birkinshaw and Hood, 1998, p 781)

This supports the proximity to the dynamic capability perspective, but is being very close, close enough? Looking at the precise definition of Teece et al (1997, p 516) and comparing it to the sine qua non of the Capability Evolution Process Model, the difference lay in that the dynamic perspective is concerned with the capabilities that integrate, build and reconfigure other internal or external capabilities. The subject of analysis in the model is only the change in one type of capability and it is not specified whether this is the capability affecting other capabilities. This ambiguity leads us to conclude, not without recognizing the difficulty therein, that the Capability Evolution Process Model is belonging to the classical RBV.

The above models were found to belong to the classic resource-based theoretical sub stream. Proceeding to the dynamic capabilities sub stream we only found one model that lived up to the criteria based on Teece et al (1997) definition.

Model in the Dynamic Capabilities Sub-stream

F2D -The Capability Lifecycle Framework

Helfat and Peteraf's (2001) Capability Lifecycle Framework is devised to understand the evolution of capabilities over time. It is specifically treating dynamic capabilities and is applying a definition similar to that of Teece et al (1997), namely: *"Dynamic capabilities involve adaptation and change, because they build, integrate, or reconfigure other resources and capabilities"* (Helfat and Peteraf, 2001, p 2). Subsequently, the Capability Lifecycle Framework is clearly belonging to the dynamic capabilities sub-stream.

Number of Identified Models
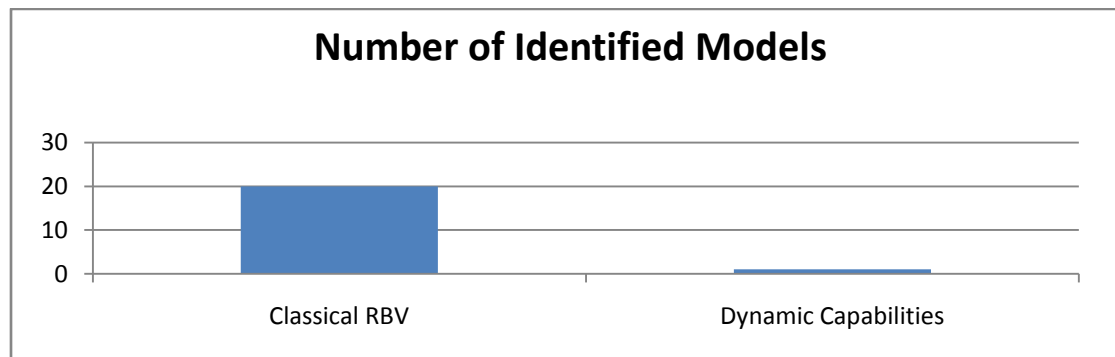
Figure 27: Distribution of identified models with regard to theoretical sub-stream.

Analysis of Theoretical Sub Stream

Concluding the analysis of the sub streams we see that all but one model identified are belonging to the classic resource-based view. This implies that even though there are two theoretical streams that are to be intensively discussed within RBV, only one of them has actually contributed with models that in some way could be applied to real business cases.

The underlying reasons for this can only be subject to speculation. However, we note that the dynamic capabilities sub stream is younger and that it has been developing fast in recent years. The dynamic capabilities perspective is hence not entirely comparable with the classic resource-based view in terms of age. That is, the classic RBV perspective has had more time to mature and to develop practical and conceptual models. The hypothesis that the difference in age of the sub stream would be an explanation for the difference in the number of practical and conceptual models imply the assumptions of how research area develops. More specifically, that areas of research in social science develop by first addressing the theoretical issues on a high abstraction level first, and later result in practical and conceptual models and various other applied analytical tools. This kind of reasoning may sound appealing, but we have not found any evidence that this could be a valid explanation.

Another possible explanation might lay in the very nature of the dynamic capabilities sub stream. It may be that the dynamic character of the capabilities is more difficult to capture and to modulate in practical models. The rationale behind this is that capabilities that develop, create and sustain other capabilities could be seen as more abstract and lucid.

Classification of Unit of Analysis

As previously stated in the methodology section, we determine to what extent the models are consistent and complementary with regard to model concepts through analyzing unit of analysis. We determine the unit of analysis through reviewing the definitions of the models' principal input and output respectively, e.g. capabilities and competencies. The definitions have been presented earlier in this thesis, but we shall restate them henceforth to facilitate transparency.

Firm-specific advantages are broadly defined as advantages that "cover a very broad set of unique company strengths" (Rugman and Verbeke, 2001, p 238). This definition is found to be the broadest in the range of identified models. Nonetheless, it should be noted that Rugman and Verbeke's models are the only ones based on this definition.

Resources are also broadly defined although more specifically as *"firm resources include all assets, capabilities, organizational processes, firm attributes, knowledge, etc controlled by a firm that enable the firm to conceive of and implement strategies to improve its efficiency and effectiveness"* (Barney, 1991, p 101.) This type of definition is at the core of the classical RBV and applied by e.g. Wernerfelt (1984, p 172) and Collis and Montgomery (1998, p 72).

"Capabilities [...] refer to a firm's capacity to deploy resources, usually in combination, using organizational processes, to affect a desired end. They are information-based, tangible or intangible processes that are firm specific and are developed over time through complex interactions among the firm's Resources" (Amit & Schoemaker, 1993, p 35).

Competencies could be seen as a form of capability that is coordinating other capabilities (Pralahad and Hamel, 1990, p 82; Foss, 1997, p 11).

"Dynamic capabilities involve adaptation and change, because they build, integrate, or reconfigure other resources and capabilities" (Helfat and Peteraf, 2001, p 2) or as Teece et al (1997, p 516) is defining "*dynamic capabilities as the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments*."

Subsequent to these definitions we are able to map the identified models with regard to unit of analysis and analytical chronology. This in turn is revealing to what extent the models are consistent and complementary with regard to explanatory claim and unit of analysis.

| Unit of Analysis	Step 1 (Identification)	Step 2 (Valuation)	Step 3 (Implications)
Firm-Specific Advantages			L3C; N3C
Resources	P1C	B2C; E2C; G2C	H3C; I3C; T3C
Capabilities (Incl. core)	A1C; Q1C	C2C; D2C; R2C	J3C; K3C; M3C; U3C
Competencies (Incl. core)		S2C	O3C
Dynamic Capabilities		F2D	

Table 14: Units of analysis consistency table

Analysis of Unit of Analysis

Having established the unit of analysis table, we can explicitly confirm that the terminology and definitions with regard to the unit of analysis are diverse. In fact, there are also slight variations between the different scholars' definitions of the same terms, e.g. capabilities. This is to some extent confirming that there is some conceptual ambiguity and variety in the definitions (Cf. Foss, 1997, p 11; Priem and Butler, 2001, p 23). However, in general terms we find that the variations within the definitions are less important than the differences between the definitions, i.e. between e.g. resources and capabilities.

To some extent this can be linked to Foss' (1997, p 11) observation that scholars who consider knowledge-based assets more important for competitive advantage tend to refer to competencies and capabilities as unit of analysis. This implies that to a great extent, the preference for a specific term is linked to the different sub-streams even within the classical resource-based view. Hence, these nuances are guiding the focus of the different models. This is evident in the case of the core classical models of RBV, e.g. B2C, H3C, H3C, I3C and T3C, of Barney, Wernerfelt and Collis and Montgomery versus the more knowledge and capability oriented models (C2C, D2C, R2C, J3C, etc) of Grant, Amit and Schoemaker, Black and Boal, Peteraf etc. Nonetheless, with regard to these nuances we find that the definitions of capabilities are a subset of the broader definition of resources and we find that competencies tend to be a subset of capabilities, still within the broader definition of resources.

When in contrast, one is reviewing dynamic capabilities, they tend to be set a part as their definition is distinctly different from that of ordinary capabilities. However, it could be argued that dynamic capabilities could be included in the broader resource definition and even as a subset of capabilities in general. It is possible that dynamic capabilities scholars would disagree, but given the broad definition of resources, we believe that dynamic capabilities are not contradicting Barney or Wernerfelt's definitions of resources. A similar observation is made by Regnér (1999, p 129). This implies that the dynamic capabilities models are not completely inconsistent with core classical resource based view models in terms of their input definitions, although they are based on different assumptions. The uncertainty and contradicting views on their relationship is reflected in the dashed line of the dynamic capabilities, in the subsequent Venn diagram.

Our view of the relationship between the different definitions is illustrated in the subsequent Venn diagram:

Venn Diagram of Resource-based Definitions

Firm-specific Advantages

Resources

Dynamic Capabilities

Capabilities

Competencies
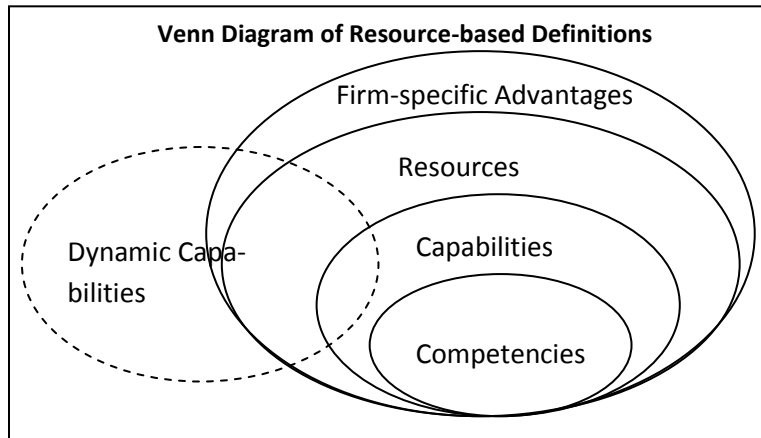
Figure 28: Venn diagram of Resource-based definitions

By considering the noted intersections and subsets, we reach the issue of to what extent these different units of analysis can be consistently interchanged, in the various models, i.e. to what extent these models are complementary. For example can competencies be input in a capabilities model or a broad resource mode? Conversely, to what extent a resource can be input in a competencies model?

Based on the previous discussion of definitions and the inferences of the unit of analysis table, models can be applied in combination with other models based on the same unit of analysis and across the steps of the analytical chronology. This would for example imply that a capabilities-based model in step 2 could be combined with a capabilities-based model in step 3. Such application is consistent both with regard to unit of analysis and type of explanatory claim. The models are hence complementary.

This complementarity is exemplified in the following figure. An RBV analysis ranging from identification of capabilities to strategic implications could consistently combine the capabilities-based models across the three steps of the analytical chronology.

Capabilites focused analysis

Step 1 Type Models
A1C; Q1C

Step 2 Type Models
C2C; D2C; R2C

Step 3 Type Models
J3C; K3C; M3C; U3C

Example of how the Unit of Analysis Table can be used as a tool for a more consistent RBV analysis.
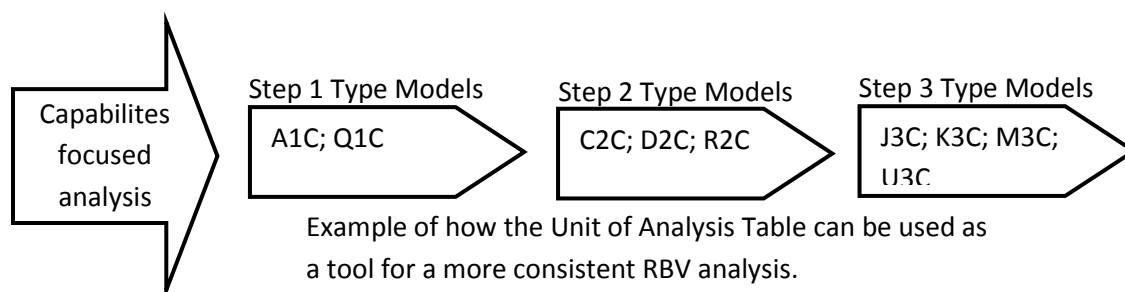
Figure 29: Flowchart of capabilities focused analysis over all steps

Another issue is the possibility to combine models across the steps of the analytical chronology and across unit of analysis. This would for example be the case of combining a competency-based model with a capabilities based model. As the Venn diagram of definitions we developed illustrates, the various units of analysis are sub-sets of each other. Consequently, it is consistent, with regard to unit of analysis, to combine models across units of analysis, but only in the direction of broader definitions. For example, it would be consistent to insert capabilities in a resource-based model. However, it should be noted that this might result in a loss of precision, as a capabilities-based model for example may be more specifically designed to handle the particular character of capabilities. Nonetheless, such a combination can be considered consistent and the models complementary. This is exemplified in the following figure, where one is combining capabilities-based models with firm-specific advantages-based models.

	Step 1	Step 2	Step 3
Firm-specific Advantages			L3C; N3C
Capabilites	A1C; Q1C	C2C; D2C; R2C	
Core-competencies			
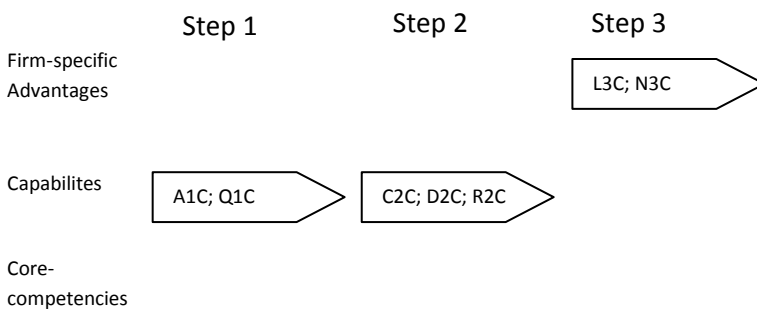
Figure 30: Consistency illustration between different units of analysis

Furthermore, we intend to treat the issue of combinations of models in the reverse order of definitions, i.e. from less specific resource definitions to more specific resource definitions. This would for example be the case of combining a resource identification model (P1A) with a competencies-based valuation model such as S2C. With reference to our previous arguments, this is not recommendable and is most likely inconsistent with unit of analysis. These models are thus probably not complementary. However, it may be possible under certain conditions, namely that the model is based on the broader resource based definition and that the identified resource in fact is a competency. Hence, these two factors need to be ascertained before such an analysis can be conducted consistently. In the case of P1A, it happens to be an exception to the broad resource definition and is instead referring to resources as tangible assets. This model is therefore likely to identify tangible resources instead of competencies. Subsequently, this is confirming the difficulty of combining models in the reverse direction of specificity in the unit of analysis. These model-combinations are therefore considered less complementary. This is illustrated in the following figure.

Step 1   Step 2   Step 3

Firm-specific
Advantages

Resources

Competencies
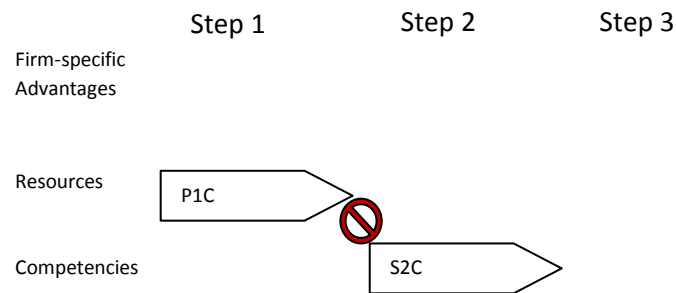
Figure 31: Consistency illustration between different units of analysis (example 2)

Regarding combinations of models based on dynamic capabilities, the subjects of consistency and complementarity are more complicated. First, as we have only identified one such model, it is per se difficult to combine it with other dynamic capabilities models. Nonetheless, if such models did exist, we have reasons to expect that combinations within the same unit of analysis and across the steps of the analytical chronology would be considered consistent and the models complementary. However, regarding combinations with models based on the classical resource based view there is more ambiguity. This is linked to the disputable relationship between dynamic capabilities and the other units of analysis. If one is accepting the view that dynamic capabilities are consistent with the broad resource definitions, the complementarity of models based on broader definition is high. This would for example imply that a dynamic capability could be valued in the VRIS-model (B2C). As there is a lack of models within the perspective, this could be a tremendously practical and convenient conclusion. However, considering the fundamentally different assumptions underlying the dynamic capabilities perspective, such a conclusion could be problematic. This is further treated in the analysis of the models in a strategy research context.

Disregarding the purpose of analyzing the applicative implications, the findings of the analysis of the unit of analysis can also be used to reveal model gaps, i. e. areas where few or no models exist. This is evident when observing that there are few models built on competencies, firm-specific advantages and even fewer for dynamic capabilities. More models adapted to a specific unit of analysis definition would enable more consistent analyses and probably increasing the precision of the analysis. Developing more models in these gaps would be a major contribution to the practical applicability of the RBV. Nonetheless, we have identified model gaps with a potential for the development of new models within the RBV.

In summary, we have analyzed the unit of analysis of the various models and in turn related them to the analytical chronology. This allows us to determine the consistency and complementarity of the various models. This is illustrated in the Unit of Analysis Table. Subsequently, we are able to develop a set of guidelines for the complementarity, i.e. e. how the models can be consistently combined across unit of analysis and analytical chronology. We find that there is a high complementarity for models within the same unit of analysis and for models based on more broadly defined units of analysis. In addition, we treat the complementarity between classical RBV models and those based on dynamic capabilities. Finally, we are revealing gaps where there is potential for new models to be developed.

The Models in a Strategy Research Context & Further Classification of Assumptions

Although we have divided all identified models into the two broad theoretical categories "classical" and "dynamic", the models can also be related to a wider strategy research context in terms of their underlying assumptions. The advantage of doing so is not only that it is enabling us to relate the models to a wider strategy research context, but also that it is allowing us to distinguish the identified models with regard to underlying assumptions, which in turn has implications for the extent of consistency in use and complementarity.

In order to relate the models to a wider strategy research context, we draw upon the framework of Gavetti and Levinthal (2004, p 1310). They outline an overreaching framework and map of the strategy research field. This map is covering two axes: the level of analysis and the type of assumptions about choice processes. The level of analysis is defined through structural versus situational level. The assumptions about choice processes are defined through behavioral versus rational assumptions. The structural level of analysis refers to analysis on aggregate levels, whereas the situational level is more focused on the specific situations in which actors are embedded. The behavioral assumptions refer to assumptions of a lower rationality, e.g. imperfect information and bounded rationality, whereas the rational assumptions are closer to the rationality assumptions of neoclassical economics.

Based on these variables and our understanding of the character of the identified models we have mapped the models in Gavetti and Levinthal's (2004, p 1310) view of the strategy research context. This has yielded the following result:
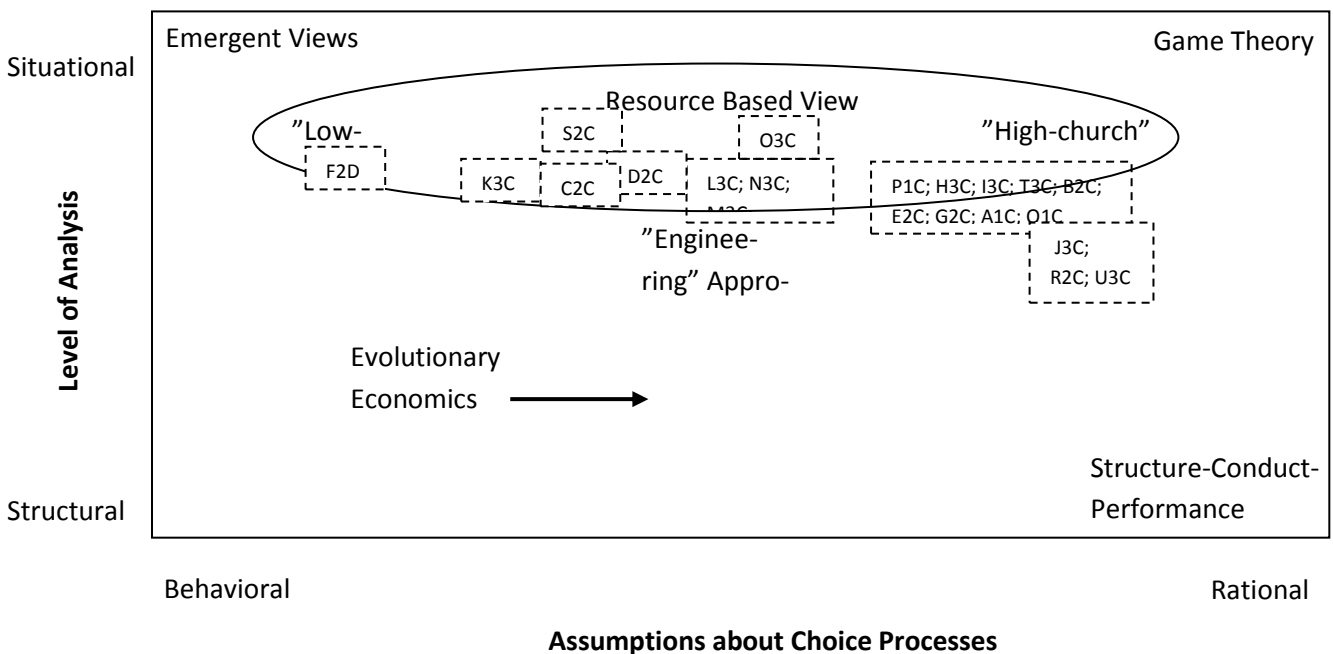
Figure 32: Strategy Research Context

Although all but one model (F2D) was found to belong to the classical resource based view, the spread of models in the wider strategy context is not as concentrated. In fact a few clusters can be identified. A few models (K3C; S2C; C2C; D2C) are found to be fairly close to the dynamic capabilities perspective, which is considered "low-church" RBV. Their theoretical origin is hence closer to for example evolutionary economics and the works of inter alia Nelson and Winter. Subsequently, these models deviate because they are either concerned with network embeddedness, capability evolution or higher level capabilities. However, as was ascertained in the section "Classification of Sub-stream" they are close, but they are not completely meeting the conditions for the dynamic capabilities perspective. Nonetheless, they demonstrate the lucid boundaries between the two poles in the Resource-based view, "high-church" and "low-church". This is likely to influence the use of the models and is therefore important for the understanding of the models applicative implications, as models closer to each other are likely to be more consistent in use and thus more complementary.

Another observation is that more than half of all models (P1C; H3C; I3C; T3C; B2C; E2C; G2C; A1C; Q1C) are close to "high-church" RBV. This perspective is, as previously stated, less concerned with higher order capabilities and it is more linked to game-theory and the rationality of neo-classical economics. To the extent of which one is concerned with using theoretically consistent models, this cluster of models indicates greater complementarity.

Moreover, it should be noted that models J3C, R2C and U3C are deviating from the other "high-church" models. This deviation is explained by their attempt to approach the IO-perspective, Structure-Conduct-Performance. This is particularly the case for J3C and R2C, conceived by Amit and Schoemaker and Grant respectively, where the strategic firm resources and capabilities are contrasted with the industry success factors. These models are hence increasingly complementary. In practice this cluster of models could be suitable for the analyst, practitioner or scholar who is concerned with RBV's lack of industry focus, consequently enabling a combination of IO and RBV.

In conclusion, the map of the models in a strategy context has apart from illustrating the theoretical distribution of the identified models, enabled us to establish that the models are spread within RBV and that the boundaries are lucid between the two poles in the Resource-based view, "high-church" and "low-church". However we identify a set of clusters with higher internal consistency and complementarity with regard to their underlying assumptions. Consequently, the map is enhancing our understanding for the consistency and complementarity of the identified models. This understanding is in turn important for the accurate and consistent application of the identified RBV models.

Summary of Analyzed Models

No.	Model Code	Models	Analytical Chronology	Unit of analysis	Dynamic /Classic	Description
1	P1C	Grant (2005). The Resource Identification Framework	1	Resources	C	Framework for identifying and classifying resources into categories.
2	A1C	Grant (1996) The Hierarchy of Capabilities	1	Capabilities (incl. core)	C	Tool for visualizing what capabilities generate competitive advantage.
3	Q1C	De Wit & Mayer (2004) Strategy – Process, Content and Context	1	Capabilities (incl. core)	C	A system for classification of capabilities
4	R2C	Grant (2005) The Resource and Capabilities Gap Framework.	2	Capabilities (incl core)	C	A framework for highlighting resource and capability gaps through firm's key strengths and weakness relative to industry.
5	B2C	Barney, J.B. (1991) Firm Resources and Competitive Advantage	2	Resources	C	The VRIS-Model: a framework for evaluating whether a firm resource can be a source for sustained competitive advantage.
6	D2C	Peteraf (1993) The Cornerstones of Competitive Advantage A RBV	2	Capabilities (incl core)	C	A framework for determining what capabilities generate competitive advantage

7	E2C	Hall, R (1999) A Framework Linking Intangible Resources and Capabilities to Sustainable Competitive Advantage	2	Resources	C	A framework of classification of the nature and characteristics of intangible resources
8	G2C	Yiche Chen and Yan-Ru Li (2006) The Construction of a Model and Scale for Assessing Technology Resources	2	Resources	C	Model and scale for assessing resources based on four dimensions: Technology, Market, Human and Finance.
9	S2C	Fleisher and Bensoussan (2004) Strategy and Competitive Analysis	2	Competencies (incl core)	C	Five tests for determining competitive value
10	C2C	Black & Boal (1994) Strategic Resources Traits, Configurations and Paths to Sustainable Competitive advantage	2	Capabilities (incl core)	C	A model establishing valuing resources and capabilities based on their network of relationships in order to determine whether they lead to high or very high support of sustainable competitive advantage
11	T3C	Collis & Montgomery (1998) Triangle of Corporate Strategy	3	Resources	C	Framework for analyzing the fit and alignment of the elements of corporate strategy.
12	H3C	Wernerfelt, B (1984) A Resource Based View of the Firm	3	Resources	C	Resource-product Matrix: a tool for mapping of resources in product markets
13	I3C	Wernerfelt, B (1984)	3	Resources	C	The Stepping Stone

		A Resource Based View of the Firm				Model: a framework for evaluation of re-source diversification in terms of their long-term capacity to func-tion as *stepping stones* for sequential expan-sion into new product markets
14	O3C	Pralahad & Hamel (1990) The Core Competence of the Corporation	3	Competen-cies (incl core)	C	The Product/Core Competency Matrix: a framework for visua-lizing the link between products and their respective core com-petencies
15	U3C	Schoemaker (1992) How to Link Vision to Core Capabilities	3	Capabilities (incl core)	C	The Core Capabilities Matrix: a framework for linking core capa-bilities, strategic seg-ments and various competitive scenarios in order to develop strategic direction
16	J3C	Amit & Schoemaker (1993) Strategic As-sets and Organisa-tional Rent	3	Capabilities (incl core)	C	A framework connect-ing Strategic Industry Factors with Strategic Assets (Resources and Capabilities)
17	L3C	Rugman & Verbeke (1998) Corporate Strategies and Envi-ronmental Regula-tions An Organizing Framework	3	Firm-Specific Advantages	C	A model for evaluating environmental regula-tions' impact for re-source allocation in relation to the Firm Specific Advantages to Country Specific Ad-

							vantages
18	M3C	Hillman & Hitt (1999) Corporate Political Strategy Formulation	3		Capabilities (incl core)	C	A decision-tree model for political strategy formulation and navigation in the political policy process
19	N3C	Rugman & Verbeke (2001) Subsidiary-Specific Advantages in Multinational Enterprises	3		Firm-Specific Advantages	C	A model for assessing patterns of competence building in MNE:s
20	K3C	Birkinshaw and Hood (1998) Multinational Subsidiary Evolution Capability and Charter Change	3		Capabilities (incl core)	C	A model for identifying five generic capability evolution processes in subsidiaries
21	F2D	Helfat et Peteraf (2001) The Dynamic Resource-Based View Capability Life-cycles	2		Dynamic Capabilities	D	A framework for understanding the evolution of capabilities over time

Table 15: Summary of analyzed models.

Conclusions

In consequence of the two purposes of this thesis we devised the two research questions aiming at first determining *what practical or conceptual models can be found within the resource-based view* and second treating *to what extent the practical and conceptual models within the resource-based view are consistent and complementary with regard to explanatory claim, model concepts and basic assumptions.*

1. In response to the first research question, the extensive literature review has allowed us to determine the number of practical or conceptual models within the resource-based view to 21 models.

Building on the results from this literature review we are able to thoroughly analyze to what extent these models are consistent and complementary with regard to their explanatory claim, model concepts and basic assumptions.

2. With regard to explanatory claim, we determine what models are consistent and complementary with regard to explanatory claim and we find that the models are complementary between the steps of the analytical chronology, not necessarily consistent with regard to type, assumptions or unit of analysis.
3. Concerning model concepts, we find that the models are more consistent and complementary when based on the same unit of analysis or when combined with models based on broader unit of analysis definitions.
4. Moreover, we find that the combination of analytical chronology and unit of analysis is producing a useful and practical tool for model consistency and complementarity.
5. In relation to basic assumptions, we identify a set of clusters with higher internal consistency and complementarity with regard to their underlying assumptions.

In addition to these conclusions we have been able draw a number of conclusions relating to the practical applicability of the resource based view.

6. We note that the majority of the identified models concern strategic implications. This is an interesting observation as it is contradicting some of Priem and Butler's criticism that the resource-based view is lacking strategic prescriptions**.**
7. In addition we note that few (one) models have been produced within the dynamic capabilities perspective, which in turn is an indication of both a research gap and the perspective's current usefulness to practitioners.
8. Based on the unit of analysis and analytical chronology we are able to develop practical guidelines for practical and consistent combinations of models within an RBV analysis.
9. Finally we reveal research gaps where there is potential for new models to be developed.

Regarding these conclusions several issues seem interesting to comment on.

First, we have noted that there are few models treating the identification of resources. At a first glance, this may not be considered problematic as various methods may substitute the need for models. However, there is no consistent model or other prescription for how to go about this identification. We find this an apparent weakness of the perspective, especially since the underlying resources or capabilities are of such importance to the resource-based view and to its analyses. Related to this is what we perceive as the implicit assumption that only insiders can identify these resources. We are wondering if not the theoretical assumptions of for example social complexity and causal ambiguity render insiders just as able as outsiders, in turn basing their perception of the firm's strengths and weaknesses on the firm's external actions in relation to other actors.

Moreover, we find it problematic that there is such a variety in the various definitions and concepts. Although we have succeeded in developing the Venn diagram of the definitions, this was only possible through some form of simplification of variety of definitions and through making some implicit assumptions. This illustrates the actual complexity and disparity of concepts and definitions existing within the resource based view. Hence, one of our conclusions is that for the RBV to be truly valuable to practitioners and users of the RBV-models, some serious improvements in terms of applicability are needed.

Another problematic issue is the relationship between the dynamic capabilities perspective and the classic resource based view. Although they are sharing some fundamental similarities and that they to some extent be compatible, there are also fundamental and important differences. Most importantly, they differ in their basic views of the market mechanisms and consequently in the origin of the competitive advantage. This difference should not be underestimated and we are wondering to what extent the dynamic capabilities perspective should truly be considered part of the RBV.

This is also highlighting the issue of the multitude of sub-streams existing within the RBV. In this thesis we decided to focus on the two most important. However, this multitude of sub-streams could in part be seen as an indication of the dynamic development of the view, but it is undoubtedly contributing to the disparity of definitions and concepts. In turn this is rendering the RBV less useful in practice and to practitioners.

Regarding the main contributions of this thesis, it is the first, to our knowledge, comprehensive inventory of practical and conceptual models within the resource-based view. Furthermore it is thoroughly treating the models' applicative qualities through analyzing consistency and complementarity. In particular, it is enhancing and providing guidelines for how the identified models can be used consistently and combined with other models within an RBV analysis. The resulting conclusions have important implications for the practical application of RBV as a view and for its models. In addition, the thesis is revealing significant research gaps, especially in terms of the potential to develop new models. Summa samarium, these contributions provide an important basis for the further development of the applicative aspects of the RBV, being relevant to both practitioners and researchers.

Further Research

Having completed this inventory and analysis of practical or conceptual RBV models, we have a series of propositions for future research. These propositions could be divided into four types.

Firstly, it is obvious that it needs more research to develop models for identification of the resources. The fact that the initial step lack methods for identification is a clear weakness when it comes to the applicability of RBV. It is also obvious that more models needs to be developed within the dynamic capabilities sub stream, if proponents of this sub stream wish to make the perspective more applicable, that is.

Secondly, we observe the need to test the various models in practice. Such tests could for example with great advantage be comparative and contrast the implications of the various models. This would be useful for practitioners to know what models are preferable in what situations. Other tests could for example evaluate the usefulness and quality of the different models.

Thirdly, we observe the need for a test of different methods of analysis. It would be tremendously interest to establish to what extent one could perform an RBV analysis on the basis of only external information as opposed to the implicit requirement of internal information, i.e. interviews with managers or other internal actors (Cf. Hall, 1999, p 612; Collis and Montgomery, 1998, p.44). A comparative test of these parameters could be of interest to analysts, mostly basing their analyses on public information.

A third type of possible research issues could be the development of or examination of how the dynamic capabilities perspective could be translated into practical models for practitioners. Studies within these three types of research areas would not only prove useful to practitioners but they would undoubtedly advance and develop the resource-based view as a perspective in contemporary strategy thinking.

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Appendix

Leading Scholars

See Methodology chapter: The Search Strategy for more information. The scholars that have been searched are:

Amy J. Hillman
Anoop Madhok
Birger Wernerfelt
Bruce Kogut
C. K. Pralahad
Constance E. Helfat
Cynthia A. Montgomery
David J. Collis
Eli Ofekb
Gary Hamel
Harbir Singh
J.-C. Spender
Jaideep Anand
James M. Bloodgood
James Robins
Janice A. Black
Jay B. Barney
Julian Birkinshaw
Kathleen M. Eisenhardt.
Kimberly B. Boal
Margaret A. Peteraf
Margarethe F. Wiersema
Markus C. Becker
Michael A. Hitt
Neil Hood
Nicolai J. Foss
Paul J H Schoemaker
Philip G. Berger
Raphael Amit
Richard A. Bettis
Richard Hall
Richard J. Arend
Richard P. Rumelt
Ricky Y. K. Chan
Robert M. Grant
Sidney G. Winter
Udo Zander

Selection of Leading Textbooks (A)
Top 25 strategy books measured in sales on Amazon.com

Category: Books / Business, Finance and Law / Management / Strategy

As stated in the Methodology chapter, a strategy textbook is defined as a book used in business schools in the teaching of practitioners. The Amazon list of bestselling strategy books include both strategy textbooks and other strategy literature, why only the relevant strategy textbooks are included in this appendix.

1. Not textbook
2. Exploring Corporate Strategy. Gerry Johnson, Kevan Scholes, Richard Whittington. Harlow : Financial Times Prentice Hall, 2005
3. Understanding Organizations
4. Not textbook
5. Not textbook
6. Not textbook
7. Competitive Strategy - techniques for analyzing industries and competitors. Porter, ME. New York : Free Press, 20048 Not textbook
9. Not textbook
10 Exploring Corporate Strategy - se 2.
11 Not textbook
12 Not textbook
13 Not textbook
14 The McKinsey Mind. Ethan M. Rasiel and Paul N. Friga. New York: McGraw-Hill, cop. 2002
15 Not textbook
16 Not textbook
17 Not textbook
18 Not textbook
19 Not textbook
20 Same title as 14, different edition.
21 Managerial Economics & Business Strategy. Michael R. Baye. 2006. Chicago; London: Irwin, 2006
22 Strategy Safari. The complete guide through the wilds of strategic management. Henry Mintzberg, Bruce Ahlstrand, Joseph Lampel. 1998. Harlow: Financial Times Prentice Hall
23 Not textbook
24 Contemporary Strategy Analysis. Grant, R. 2005. Contemporary Strategy Analysis, 5 ed. Malden: Blackwell Publishing.
25 Not textbook

Selection of Leading Textbooks (B)

The list below contains strategy textbooks that were chosen to complement the search of bestselling books. See Methodology chapter for more information.

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Besanko, David; David Dranove; Mark Shanley; Scott Schaefer, 2004. Economics of Strategy. New York; Chichester: John Wiley

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