Restrictions and opportunities of the resource-based view for the strategic management of a firm

Masterproef voorgedragen tot het bekomen van de graad van
Master in de bedrijfseconomie

Mottart Matthias
onder leiding van
Prof. Dr. Aimé Heene
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Ondergetekende verklaart dat de inhoud van deze masterproef mag geraadpleegd en/of gereproduceerd worden, mits bronvermelding.

Mottart Matthias
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Introduction

During the 1980’s the resource-based view of sustained competitive advantage, from now on referred to as RBV, emerged and became a dominant and popular view within strategy research. Among the pioneers of the RBV we mention Wernerfelt (1984), Barney (1986, 1991), Die- rickx & Cool (1989) and Peteraf (1993). Elements of the RBV line of reasoning were introduced, among others, by Penrose (1959) and Williamson (1975), but the first explicit expression of the RBV was A Resource-Based View of the Firm by Wernerfelt in 1984, who for the first time put together the RBV elements in one framework. The view is considered to be a complementary school of thought to industrial organization (IO) economics, in which the work of Porter occupies an important position and which focusses on market structures. The RBV is important because of its shift in conceptual focus from a firm’s position in an industry to focus on a firm’s resource base.

Barney’s 1991 article Firm resources and sustained competitive advantage is often consid- ered as one of the most important foundational papers of the RBV as it developed a framework adopted by many strategy researchers after its publication. The central argument of Barney’s paper states that sustained competitive advantage is a result of the deployment of valuable, rare, inimitable and non-substitutable resources. This Framework is largely known as the VRIN-framework and was later replaced by the VRIO-framework, in which non-substitutability was substituted by the criterion of organizational embeddedness. Such a view on sustained competitive advantage focusses on the firm-side and not on the market-side, which goes against most schools of thought within strategy research, which often concentrate on the environment in which a firm operates. These schools of thought make implicit assumptions of the resource-side, assuming that resources are homogeneously distributed among firms and that these resources are highly mobile. As opposed to this line of reasoning, Barney and all the RBV theorists emphasize the immobility of resources and a subsequent heterogeneous distribution of resources among firms.
The RBV is a popular school of thought within strategy research. Many authors have used it to conduct research and others have criticized it, which has led to an interesting theoretical conversation. This is the reason we chose the RBV as the object of the present paper.

The purpose of the present paper is to examine whether the RBV can be considered a veritable theory of sustained competitive advantage or not, and if not, in which manner is the RBV capable to play a role within the conversation of strategic management. Put differently, what are the limitations and the opportunities of the RBV for the strategic management of the firm?

To achieve this we will start from the scientific critique, voiced by Sanchez in 2008 and based particularly on Barney´s 1991 article. Subsequently, we will scan the RBV literature for both endorsement and refutation of that critique. After having appraised the critiques and the arguments that counter those critiques we will formulate a conclusion in which we will verify whether the critical appraisals expressed by Sanchez and/or others hold or not. We will focus on the following items: (1) the determination of resource value and the resulting elemental fallacy of the RBV, (2) the tautology problem, (3) the uniqueness dilemma, (4) the cognitive impossibility dilemma, (5) the asymmetry in assumptions about resource factor markets, (6) the epistemological impossibility problem, (7) the absence of a chain of causality and the resulting problem of prescriptiveness, (8) the elemental fallacy of the RBV and (9) the critique on the static approach of the RBV. This last critique is not addressed by Sanchez, but we consider this an important issue in the context of this paper.

As the reader of this paper will notice, we will not discuss Sanchez´s critique concerning Barney´s criterion of non-substitutability. The critique on the N-component of the VRIN-framework adresses the problem of the conceptualization of the notion strategy and this would lead us too far. According to Sanchez, Barney failed to conceptualize the notion of strategy and thus strategic substitutes do not exist. This is a complex issue and we have chosen not to include this discussion within this paper.

In order to understand the context in which Sanchez´ concerns about the RBV are embedded, we will start with a conceptualization of what the author means by a scientific critique. Next, we will assess the critical appraisals directed at the theoretical construction of the RBV as formulated by Barney. Finally, by way of conclusion, we will answer the research question, What are the limitations and opportunities of the RBV for the strategic management of a firm, based on the developments in our paper.
Scientific Critique

Sanchez basically argues that a scientific theory must meet certain conditions. Firstly, an adequate description of primitive entities and their functional and behavioral properties is essential. Then, the specific ways in which each primitive entity causes, contributes to or influences the phenomena of interest must be clarified. In the case of the RBV this means that a chain of causality must be derived which explains how a given resource creates strategic value. Next, the enabling of the logical derivation of hypotheses (cause-and-effect relationships) is important. Finally, the properties of the primitive entities must enable identification of observable real world entities (constructs) and cause-and-effect relationships must be tested empirically. If the researcher follows all these requirements that are indispensable to the scientific method, he creates logical and conceptual adequacy.

The critique of Sanchez is based primarily on the failure of the RBV as developed by Barney in 1991 to fulfill these essential prerequisites of the scientific method, which causes the RBV to become both theoretically and practically inoperable.

Priem & Butler discuss the RBV’s claim of becoming a resource-based theory (RBT), which implies that the view would acquire the characteristics of a scientific theory which are described above. Their critique on the RBT basically focuses on the same key issues which are brought forward by Sanchez.
The RBV Polemic

The Resource-based View and the Value Concept.

Sanchez

Without any doubt one of the most criticized conceptual deficiencies of the RBV as created by Barney (1991), is the lack to provide an adequate conceptual basis for identifying valuable resources. This constitutes a great stumbling block in the development of the RBV as a scientific theory. Therefore, it is not surprising to observe that this critical point is discussed at length by both Sanchez (2008) and Priem & Butler (2001) in their respective critiques on the scientific character of the RBV. Sanchez refers to this profound logical problem as the “value conundrum of the RBV”. The author accuses Barney of outsourcing the fundamental conceptual task of identifying strategically valuable resources to environmental models such as SWOT-analyses. In fact, Barney states in his 1991 article (p 106): “The traditional strengths-weaknesses-opportunities-threats model of firm performance suggests that firms are able to improve their strategies only when their strategies exploit opportunities or neutralize threats. […] Firm attributes may have the other characteristics that may qualify them as sources of competitive advantage, but these attributes only become resources when they exploit opportunities or neutralize threats in a firm’s environment”. Barney explicitly defers the responsibility of defining the concept of value to other frameworks and thus doesn’t offer himself ideas of his own to execute this task. The RBV only “suggests what additional characteristics that these resources must possess if they are to generate sustained competitive advantage” (1991, p 106) after the firm attribute is qualified as valuable through a given environmental model, i.e., when the firm attribute neutralizes threats or exploits opportunities. Sanchez describes the failure of the RBV to provide a conceptual basis as follows: “In effect, the Value Conundrum is a symptom of the failure of the RBV to meet a basic first requirement for building a scientific theory about resources: The RBV fails to provide a systematic basis for describing resources that would lead to consistent characterizations of the functional and behavioral properties of resources and thereby support the generation of hypotheses about the cause-and effect relationships among resources that enable them to create strategic value” (p. 16).
The RBV (as articulated by Barney in 1991) thus fails to provide a conceptual basis for describing resource characterizations of the functional and behavioral properties, which are responsible for creating strategic value. This also means that the RBV lacks the capability to distinguish different categories of resources, because such a classification would be based on those functional and behavioral properties.

Thus, the RBV has no conceptual foundation to determine which attributes are currently valuable to the firm nor does it have the capacity to predict which attributes will be valuable in the future. Prediction is, as mentioned above, a necessary condition to construct a scientific theory, without which falsification proves to be impossible and the theory becomes unimplementable in practice. Moreover, this means, according to Sanchez, that if strategy theorists and strategic management have nothing but the RBV to work with, the only factor that leads to strategic success in the future will be luck.

**Other critical appraisals**

Sanchez is not the first and definitely not the only strategy researcher who has criticized the fundamental concept of resource value as formalized in the main stream RBV. Priem & Butler also state that resource value is derived from demand-side characteristics and thus is determined exogeneous to the RBV. Authors such as Priem & Butler(2001), Kraaijenbrink, Spender & Groen (2010) and Lockett, Thompson & Morgenstern (2009) argue that the RBV presents a tautological statement when it comes to the definition of resource value. This concept is defined by Barney (1991) in a way that it is stated in both the explanans and explanandum of the definition. In the case of the RBV the explanandum, i.e., the phenomenon that needs an explication, is sustained competitive advantage and the explanans (the claims that clarify the explanandum) constitutes the VRIN (value, rarity, inimitability, non-substitutability) framework. Resource value and rarity are argued to be the sources of competitive advantage, which in turn is defined in terms of value and rarity. This tautological formulation of one of the fundamental concepts within the RBV framework perils the ambitions of the view to become a workable theory.

**Scanning the RBV literature**

In his 2001a article, Barney counters Sanchez´critique by underlining the necessity “to examine the implications of the resource-based logic without considering the market conditions
under which a firm’s resources will and will not be valuable” (p43). The author does admit that of all the components of which the RBV is composed “the value variable is the least fully parameterized” (p 42) in the 1991 article, which is not the result, however, of the fact that the RBV determines the concept of value by referring to models on the market-side, but because of the fact that he already had thoroughly developed on this subject in his 1986 paper.

In his 1997 discussion, the author demonstrates that these environmental models suited to determine the value of a firm resource, in this case cost leadership. After describing the various modes in which cost leadership can be attained, Barney applies the competitive-forces model of Porter to assess the economic value that these attributes of the resource cost leadership can possess. For this purpose only the environmental threats are analyzed, leaving “description of the ways that cost leadership can enable a firm to exploit environmental opportunities as an exercise for the reader” (p 184). New entrants are discouraged by the high investments that entails competing on cost leadership, rivals can in some circumstances be held back by lower pricing strategies of the cost leader, substitutes are being countered as a result of the fact that cost leaders can preserve the attractiveness of their products, the threat of suppliers that engage in a higher pricing policy can be set off in a less problematic way and buyer power can be reduced since the cost leader still has manoeuvring space in the case a buyer imposes stringent demands. The conviction of Barney that the determination of resource value is of the utmost importance and is best executed by means of environmental models is illustrated on p 43 of his 2001a article: “In all high-quality resource-based work, researchers must begin by addressing the value of resources with theoretical tools that specify the market conditions under which different resources will and will not be valuable”. In the same article, the author claims that if he wrote his 1991 paper now (i.e. 2001), he would “spend more time on the question of value and how to parameterize it and how value is related to market structure” (p 54).

Notwithstanding the importance of linking resource value to the product market, the author does admit that determination of resource value is exogeneous to the RBV framework and this is for some authors, such as Kraaijenbrink (2010) enough prove that it really is exogeneous.

Barney does not stand alone in his pledge to acknowledge the importance of the firm’s environment to determine the value of a resource. In 1993, Peteraf makes the following statement, referring to ideas which go back to the 1970’s, about resources and internal capabilities: “Those which are distinctive or superior relative to those of rivals, may become the basis for competitive advantage if they are matched appropriately to environmental opportunities” (p 179). This argument is confirmed by Fahy (2000) who states that “value to customers is an essential element of competitive advantage” (p 97). Thus, a valuable resource is a resource
that enables a firm to “implement strategies that improve its efficiency and effectiveness by meeting the needs of customers” (p 97). Fahy emphasizes the role of managerial strategic choices, which are primordial to identify those resources that are potential sources of sustained competitive advantage. Although the identification of these sources is a difficult, and in some cases impossible, process as a result of causal ambiguity, managers must try to accomplish this task. Once discovered, the potential source of sustained competitive advantage must be developed, protected and deployed to create value in the marketplace. The skill of the strategic management to execute this task in an accurate way could also be considered a resource. This line of thought underlines once again the logic of determining the value of a resource within the context of the market environment in which the firm is currently competing. The author also introduces a subjective point of view on value: a resource is valuable if it contributes to value creation for the customers.

Next, Amit & Schoemaker (1993) introduce the concept of strategic industry factors¹, which are “resources and capabilities which are subject to market failures, have become the prime determinants of economic rents” (p 36). They add: “Strategic Industry Factors, in this context, are characterized by their proneness to market failures and subsequent asymmetric distribution over firms. By definition, Strategic Industry Factors are determined at the market level through complex interactions among the firm’s competitors, customers, regulators, innovators external to the industry, and other stakeholders” (p 36). In doing so, Amit & Schoemaker establish an important overlap between the firm context and the market environment: resources and capabilities that are non-tradeable, complementary, scarce, firm-specific and from which the rents are appropriable are source of sustained competitive advantage only when they are also strategic industry factors. Put differently, the available rents that a firm can earn depends on whether the firm’s strategic resources and capabilities are applicable to a particular industry setting, and thus the value of those strategic assets² is determined by the firm’s environment.

Collis & Montgomery (1995) assert that resources need to pass external market tests to qualify as valuable sources of superior performance. One of those tests consists in assessing the ability of the resource to “contribute to the production of something customers want at a price they are willing to pay” (p 120). The authors contend that the RBV “inextricably links a company’s internal capabilities (what it does well) and its external industry environment (what the market demands and what competitors offer)” (p 120). Other tests mentioned by Collis & Montgomery are the tests of inimitability, durability, substitutability and appropriability, which will be discus-

¹ Table 2 in the appendix 1 presents an overview of the characteristics of strategic industry factors as defined by Amit & Schoemaker (1993, p 36).
² Amit & Schoemaker define the firm’s Strategic Assets as “the set of difficult to trade and imitate, scarce, appropriable and specialized Resources and Capabilities that bestow the firm’s competitive advantage” (1993, p 36).
sed later, and competitive superiority of the resources. This last test is particularly relevant since many managers fail to compare their valuable resources to those of the firm’s competitors. It is not sufficient to identify resources and capabilities that are performing better than others within the firm itself. This shows once again that the value of a resource or a bundle of resources must be determined through its ability to generate value in the market. The RBV integrates both internal and external properties in its framework and thus includes the determination of value through environmental models. This means that the identification of value may be considered as endogenous to the RBV instead of exogeneous, as argued by Sanchez and Priem & Butler.

In 2003, Peteraf & Barney defined competitive advantage as the ability to “create more economic value than the marginal (breakeven) competitor in its product market” (p 314). This definition can be related to Barney’s definition of valuable resources in 1991³ “if improved efficiency or effectiveness imply greater economic value” (Peteraf & Barney, 2003, p 317). In spite of the fact that the determination of value remains a responsibility of environmental models, the definition of valuable resources as creating economic value delivers a more concrete view on the value concept. Resources are valuable only when they are able to contribute to the creation of economic value. This does not mean, however, that every valuable resource is a source of competitive advantage. A valuable resource can only be a source of competitive advantage when it is also limited in supply, and thus, rare.

In spite of the above-mentioned assertions that the value of a resource must be determined with respect to its market-side and resulting argument that this determination can be endogenous within the RBV framework, even when environmental models are used, the authors do not resolve the question of tautology. Whatever the definition of competitive advantage (creation of more economic value, creation of more value to customers, etc.), the concept of resource value is found in both the explanans and explanandum of the statement. Authors define valuable resources as resources that contribute to competitive advantage and the latter is then described as a result of valuable resources. Statements such as “Valued resources and capabilities, that is, resources and capabilities that are valued by the firm for their potential to contribute to competitive advantage” (Oliver, 1997, p 701) and “Competitive advantage is expressed in terms of the ability to create relatively more economic value. To create more value than its rivals, an enterprise must produce greater net benefits, through differentiation and/or lower costs” (Petraf & Barney, 2003, p 315), do not provide insight in the causal relationship between the behavioral properties of a valuable resource and competitive advantage. Although Peteraf & Barney (2003) provide a more

³ “resources are valuable when they enable a firm to conceive of or implement strategies that improve its efficiency or effectiveness” (Barney, 1991, p 106).
profoundly elaborated conceptualization of what constitutes value than early RBV theorizing, the tautology problem remains. In fact, the authors cannot clarify how and to which extent certain resources contribute to the creation of superior value, and thus the value of those resources is determined by their ability to create more economic value than the firm´s competitors.

A major difficulty encountered in this connection consists the valuation of non-tradeable assets such as trust, tacit knowledge and reputation. The contribution of these resources to a competitive superior position of the firm is difficult to measure, just as it is problematic to recognize their existence. Another problem is that resource value can only be recognized ex post instead of ex ante. This leads to ex post recognition of ex ante valuable resources and hinders the creation of valuable resources ex ante, which corresponds with Sanchez´critique.

Conclusion

As to conclude, the critique of Sanchez on the exogeneous determination of the value concept in the RBV is supported by many authors, even by Barney. However, various strategy researchers have pointed out the importance of linking the firm and its environment to determine the value of a resource. Barney had already linked resource value to the product market in his 1986 article. Others, such as Peteraf and Amit & Schoemakers state clearly that resource value must be linked to the competitive environment in which a firm operates, because the value of a resource is determined by the economic value it creates for the firm. This fundamental connection between the firm side and the market side implies that the determination of value is considered to be included within the RBV framework and therefore not exogeneous to the RBV, as argued by Sanchez. This line of reasoning is appropriately described by Peteraf & Bergen (2003, p 1038): “Value is a demand-side concept. What is unique about the demand for resources is that it is a derived demand, derived from the demand for its final product (Pindyck and Rubinfeld, 1992). This implies that the customers of the final product determine the value of the resources used to produce it. The utility of a resource depends upon its utility in terms of satisfying a given set of customer needs”.

However, for other authors, these arguments are not sufficient to state that the determination of resource value be endogeneous to the RBV. In our opinion, the RBV could benefit from integrating this market-side determination of value, but the problem that then arises is that the view remains tautological.

With reference to the tautological structure of the definition of resource value, our conclusion is in accordance with the critique of Sanchez, Priem & Butler and others. It is
difficult to find a satisfactory definition of resource value within the wide range of RBV literature. Authors have not been successful in defining clearly the characteristics of a valuable resource and, as a result, the prediction of ex ante valuable resources remains difficult, if not impossible. The concept of resource value is fundamental to the argument of the RBV and thus the failure to conceptualize value is an essential flaw which jeopardizes the aspiration of the RBV to become a workable theory.
Elemental falacy of the RBV

Critical appraisal

In their 2001 article, Priem & Butler stated the same phenomenon, calling this fundamental problem the “elemental fallacy of the RBV” (p 29). This fallacy consists of making simplifying assumptions about the product-side (and thus considering this side as exogenous to the RBV) but at the same time outsourcing the definition of resource value to frameworks that are situated in the market environment: “This, in effect, holds constant (i.e., outside the model) product and customer factors, because if product and customer factors vary, then resource values may vary, and unpredictable resource value changes will result in indeterminate outcomes in resource-based analyses. Therefore, just as the prior environment-focused models simplified strategic analysis with an implicit assumption of homogeneous and mobile factor markets, the RBV itself simplifies strategic analysis with an implicit assumption of homogeneous and immobile product markets” (p 30). According to Priem & Butler (p30) efforts must be gathered to obtain a synthesis of the resource- and environment-based perspectives as an important next step toward a more complete strategy theory, more useful to practitioners, for whom the favorable position of ceteribus paribus assumptions is never at their disposal.

Scanning the RBV literature

Barney (2001a, p 49) replies to this critique that he, in fact, did not develop on the product market side in his 1991 article, because he already had drawn a more complete image in his 1986 article. Thus, the author did not fail to recognize the importance of an integration of factor market models and environmental models, but just focussed on the factor market side in 1991, adding that “the 1991 article really needs to be understood within the context of the 1986 paper” (p49).

This argument directly refers to the fundamental flaw that arises in both the comments of Priem & Butler and Sanchez on the RBV. These authors have failed to look beyond the 1991 article of Barney and did not include in their respective critiques other important articles of which the RBV is composed. As Makadok (2001), in his comment on Priem & Butler, correctly points out, the RBV did not find its origin in just one article. Instead, this view has been developed in several papers which each deal with a different aspect of the RBV. Makadok
compares the RBV to a wall and the several constituent articles to the bricks of that wall: “Each of these [...] articles, taken in isolation, is merely a brick in the wall of the RBV. Thus, when Priem and Butler (2001a) isolate Barney's 1991 article - as if it were, by itself, the entirety of the RBV - and conclude that it is not a theory, it is as though they removed a brick from a wall and concluded that the brick is not a wall” (p 498).

**Conclusion**

The same holds for Sanchez, who directed his severe critique on the RBV as a theory while only focussing on Barney’s 1991 article. Although this paper is very important to the development of the RBV as a theory, it represents one brick in the wall of which the RBV is composed. The work of Peteraf (1993), Dierickx & Cool (1989) and Barney (1986), to name just a few, can be cited as other important bricks in the RBV wall of fame.
The Tautology Problem

Sanchez

This problem, which is a consequence of the failure of the RBV to provide a logical conceptual basis for identifying firm resources, refers to the fact that the basic proposition of the RBV states that strategic value creation will result when a firm ex ante acquires or develops a resource that has ex post strategic value. However, as noted above, the RBV lacks the capacity to identify current or future resources, which implies that no ex ante identifications can be made. Sanchez (2008) describes the tautology problem as follows: “A consequence of this failure is that empirical research in the RBV mode typically invokes ex post frameworks or models that are then claimed to identify ex ante valuable resources. This practice has the effect of reducing the RBV’s core proposition to an essentially tautological proposition: Resources that are argued ex post to be strategically valuable are then asserted to have been the resources that had future strategic value ex ante” (p 22). Therefore, the RBV doesn’t possess the capability to generate hypotheses which lead to predictions and for that reason its claim to be a scientific theory turns out to be unwarranted.

Other critical appraisals

Priem & Butler note in this connection that the RBV fails to construct synthetic (or theoretical) statements and resorts principally to analytic (or nontheoretical) statements. Synthetic statements are inherent to a scientific theory and are distinguished from analytic statements by the empirical content criterion: synthetic propositions are true only after investigation, while the latter appear to be true by their form or definition. According to Priem & Butler, the RBV has designed statements which contain terms which are defined in such a way that these statements are reduced to analytical propositions by their definition. The authors illustrate their assumption by replacing the terms in the resource-based theory by their definition within that theory and induce that the statements of the RBV are analytic and therefore tautological: “The underlying problem in the statement "that valuable and rare organizational resources can be sources of competitive advantage" (Barney, 1991, p 107) is that competitive advantage is defined in terms of value and rarity, and the resource characteristics argued to lead to competitive advantage are value and rarity. Instead, the characteristics and outcomes must be
conceptualized independently to produce a synthetic statement” (p28). In fact, Barney argues that competitive advantage occurs “when a firm is implementing a value creating strategy not simultaneously being implemented by any current or potential competitors” (1991, p 102).

Kraaijenbrink (2010) explains the tautology problem as follows: the concept of value is defined by Barney (1991) in a way that it is stated in both the explanans and explanandum of the definition.

As Peteraf & Barney (2003, p 320) argue, the tautology problem is a result of the fact that the RBV literature often defines resources in terms of the performance outcomes that are linked to them. This means that if valuable resources are determined by their ability to generate rents, then it becomes impossible to falsify the prediction that rents result from these resources.

**Scanning the RBV literature**

Barney (2001a) argues that Priem & Butler have restated the RBV in such a way that it appears tautological and that this “provides no insights about the empirical testability of the theory whatsoever” (p 42). According to Barney, in this mode, the critics can transform every imaginable theory within strategy research into a set of tautological statements. Since this can be done by everybody and with every theory, Barney reasons that critics should focus on whether the components of which the theory is composed are parameterized or not and to which extent. By that, he means that the theory components must be defined in a way that they can generate testable hypotheses and thus Barney, in his 2001a article, seems to align with Sanchez’s critique, although prematurely, when it comes to conceptualizing the components of the RBV. In spite of this, Barney states in his 2001a article that “in few theories do researchers fully parameterize all the concepts they use to derive empirical assertions. However, if at least some of these concepts are parameterized, then it is possible to deduce testable empirical assertions from these tools” (p 45). After this, he refers to authors such as Porter and Williamson to prove his point that every strategy researcher makes choices about which components of their theories they parameterize. In our opinion, this is a rather feeble statement since researchers are not expected to justify their theoretical failures by comparing themselves to other authors. Instead, they should look ahead and try to improve their theories without falling into the trap of committing to the same conceptual errors made by their predecessors.

Barney (2001a, p 46) also mentions that empirical research based on the RBV argument of 1991 has been executed and that in some cases the results are consistent with this argument but in other situations the outcomes prove to be not in line with the RBV’s rationale. This dis-
crepancy demonstrates that the RBV statements are in fact testable (and falsifiable) and, as a result, the argument developed in 1991 cannot be tautological since testable propositions derive from synthetic statements.

As stated above, it is difficult to find satisfying RBV conceptualizations which deflect the tautology problem. Although some authors tried to deliver definitions of competitive advantage with the objective to avoid defining competitive advantage in terms of resource value and thus to try to separate valuable resources and their performance outcomes, the fundamental statement of the RBV remains tautological.

Peteraf & Barney (2003) hazard to restate the RBV in order to attack the tautology problem inherent to the basic argument of the view. They define competitive advantage as the ability to create more economic value (= perceived gains – economic costs) than the marginal competitor, that is, the competitor that breakevens, through reduction of the costs or enhancement of the benefits associated with the firm’s product. The rents associated with this competitive advantage are “dependent upon the efficiency differences among the resources in use” (p 316). Using Wernerfelt’s (1989) notion of critical resources, the authors state that these influence the costs and benefits that are linked to the firm’s products and economic value associated with them. Although the authors argue that these definitions lead to a reduction of tautology, valuable resources are still defined in terms of their ability to generate a competitive advantage, which, in its turn, is determined by the deployment of valuable resources that impact the costs and benefits of the firm’s products. Kraaijenbrink et al. (2010) argue that these distinctions did not resolve the tendency to tautology “because the value of a resource and the sustained competitive advantage it generates is defined in identical terms”, and thus “the explanans and the explanandum of the RBV remain the same” (p 357). The same author then reflects on the status of the RBV as a theory by considering that “if we are to consider the RBV a theory, we must find a way to decouple or deny the tautology. This would require that value means something different in the explanans than in the explanandum and thus that the value of a firm’s resources and capabilities must be determinable independently of the value of products or services delivered to the firm’s customers” (p 357). If this is not possible, then the RBV has to be considered a mere heuristic for managers that sheds light on sustained competitive advantage and its sources ex post.

**Conclusion**

The problem encountered in this case is that the definitions by Barney in 1991 result in tautological statements. The defense of Barney, that consists in stating that Priem & Butler are
trying to transform the whole of the RBV theory into a set of tautological statements, falls short when it comes to satisfying the conceptual needs of a workable theory. Priem & Butler, and afterwards also Sanchez correctly point out the importance of well underpinned definitions without circular references, which lead to testable statements. Although Priem & Butler presumably try their very best to transform the RBV theory into a tautological argument, the critique is well founded. Various attempts to reduce the tautological formulation of the RBV argument did not succeed in separating the definition of value in both explanans and explanandum of the argument. This conceptual shortcoming of the RBV stands in the way of its aspirations to become a veritable theory of sustained competitive advantage.
Uniqueness dilemma

Resource rarity as a driver for competitive advantage

Sanchez

Once more, Sanchez brings to the surface a fundamental conceptual problem that is connected to the failure of the RBV to define firm resources conceptually. The author argues that the RBV, as articulated by Barney, has no basis for assessing what constitutes a rare resource and what doesn’t, which is endorsed by Priem & Butler (2001), who argue that the rarity concept is not defined by Barney.

Sanchez confirms the statement with respect to the concept of rarity of Conner & Prahalad (1996) who pretend that at some level of analysis all firm resources become unique, and thus rare. A logical consequence of this statement is that rarity cannot be used as a criterion for separating resources which are potential sources of competitive advantage from those which are not. As a result, if we follow the logic in Barney’s foundational paper, all resources are considered rare and thus constitute sources of competitive advantage. According to Sanchez the scientific problem resides in the fact that the “RBV fails to take seriously the need to characterize resources as primitive entities (with well defined functional and behavioral properties) in ways that make it possible to distinguish the ways in which resources may be regarded as significantly different to be characterized as “rare” in its context for theorizing” (p 29).

Other critical appraisal

As to Priem & Butler, the concept of rarity is not specifically defined, but used in its general sense. They refer to the work of Schoemaker (1990) arguing that it is the relative difference in the amount of value generated by the firms, rather than rarity, that is essential to obtain a competitive advantage. This, of course, depends on the definition of competitive advantage that is utilized, in this case, the generation of above-normal returns. Barney (1991) employs another concept of competitive advantage, that is, the deployment of a superior strategy on the product-market.

Barney defines competitive advantage as follows: “When a firm is implementing a value creating strategy not simultaneously being implemented by any current or potential competitors” (1991, p 103).
Scanning the RBV literature

Although admitting that the parameterization of this concept in his 1991 article is not as complete as he would like, Barney again takes the defensive on the above mentioned critique by arguing that “rare is parameterized in the 1991 article” and “this parameterization […] is specific enough to generate empirically testable assertions” (2001a, p 43). To support this argument Barney cites his own article from ten years earlier: “It’s not difficult to see that if a firm’s valuable resources are absolutely unique among a set of competing or potentially competing firms, those resources will generate at least a competitive advantage[…] In general, as long as the number of firms that possess a particular valuable resource (or a bundle of valuable resources) is less than the number of firms needed to generate perfect competition dynamics in an industry, that resource has the potential of generating a competitive advantage” (1991, p 107). However, the author admits that he in 1991 failed to specify the maximum number of firms that can possess a certain resource without perfect competition based on the resource in question exist. He is convinced that to determine such a number, the market structure should be taken into account. Furthermore, according to Barney, the existence of such a number is mentioned in the 1991 article (cf. above-stated quotation) and testable assertions can be generated from the determination of rarity in that same article if a comparative study is executed among various competing firms of which only one has in her possession a particular valuable resource. Measurement problems can be encountered, but this constitutes a difficulty that every strategy researcher is confronted with and thus is not just a problem of the RBV. This last argument, however, does not neutralize the need for improvement and additional work to complete the definition and parameterization of the rarity concept.

Peteraf & Barney refer in their 2003 article to their respective contributions to the development of the RBV in 1993 and 1991 to define more precisely the rarity component of the RBV framework. Differences in approach exist between both authors but “for both authors, rents are due to an inability to rapidly expand the supply of the scarce resource in response to greater demand” (p 317). Rents are defined in the same article as the excess of residual value that a firm has compared to the residual value of a competitor and are the result of the deployment of scarce resources. The residual value grows as the economic value (i.e., the difference between the perceived benefits of the customer and the economic cost to produce the good) increases and to gain a competitive advantage, a firm must “create more economic value than the marginal (break-even) competitor in its product market” (p 314). In this process of creation of superior economic
value the resources which are limited in supply, and thus scarce or rare, occupy a central position, since firms that possess them are able to generate more economic value than their competitors that cannot enjoy their services. This, of course, applies only to the resources of which the prior condition of value is fulfilled and thus when “they enable a firm to conceive of or implement strategies that improve its efficiency or effectiveness” (Barney, 1991, p 106). A rare resource which does not have any positive competitive implications on the market-side, i.e., which does not create economic value, is not valuable and as a result does not bring about a competitive advantage for the firm.

The rarity concept never has been defined extensively. Many problems have been encountered as the RBV developed as a dominant model in strategy research. Peteraf & Bergen (2003) assert that Barney in 1991 did a good job in conceptualizing the rarity concept. In spite of this, the authors add an important deficiency in Barney’s definition: his focus on resource types. Peteraf & Bergen state that concentrating on resource types instead of on resource functionalities is very misleading. In the case of substitute resources or bundles of resources, rarity does not apply when resource types are considered. Resource substitutes can create the same strategic value as the supposed rare resource. These substitutes do possess the same functionality, i.e., the implementation of the same strategy. Thus, in the conceptualization of resource rarity, strategy researchers should consider rarity in terms of resource functionality, to exclude the confusion that arises when resource substitutes enter the competition. The importance of considering resource functionalities instead of types is also brought forward by Wernerfelt (1984) and Lockett & al. (2009): “It is not the resource type per se that matters, it is the functionality of the resource and how the resource is employed” (Lockett et al., 2009, p 13).

This theory evokes the inevitable question of what constitutes a strategy and how can one assess which strategies are the same. As stated in the introduction to this paper, we will not enter upon this issue, since the scope of this paper is too limited for this extensive discussion.

**Conclusion**

As we can deduce from the argument stated here, the concept of resource rarity, a substantial notion within the framework of the RBV as formulated by Barney and other authors, is still not completely parameterized. We can state that the critique of both Sanchez and Priem and Butler is correct since the conceptualization of the term remains vague and incomplete. Barney has attempted to parameterize the rarity concept, but the result is still a vague description of what constitutes a rare resource, which is correctly indicated through the critical appraisals. This defi-
ciency is, of course, a result of the fact that within the RBV literature the notion of resource is not sufficiently conceptualized. Further attempts to define rarity (or scarcity) are not completely satisfactory. Characterizing a rare resource as limited in supply passes over situations in which the rare resource is in fact a combination of resources.

However, Sanchez´critique is too severe when it comes to the uniqueness dilemma, i.e., that every resource at some level of analysis becomes unique. This may be true when taken literally, but the suggestion of Peteraf & Bergen (2003) to shift the focus from resource types to resource functionalities neutralizes this critique. As a result, Sanchez fails to take into account, among others, fixed assets and strategic substitutes.

**Resource Heterogeneity**

**Sanchez**

With reference to the concept of heterogeneity, Sanchez asserts that this notion does not have any actual meaning since the RBV is unsuccessful in distinguishing conceptually one kind of resource from another. This shortcoming leads to the the inevitable result that the idea of heterogeneous resource endowments, one of the most fundamental ideas of the RBV, becomes an inoperable concept.

**Other critical appraisals**

As Wernerfelt (2008, In: Lockett, O´Shea & Wright, p 1133) correctly points out, the fundamental inquiry on the origins of firm heterogeneity has been neglected in the RBV literature. The author, who is considered one of the founding fathers of the RBV, states the following about the differences in the resource endowments across firms: “[…] I think the unfinished agenda of the resource-based view is in terms of where do these differences come from? I’m still interested in trying to start with a model of homogeneous firms or homogeneous people or at least randomly distributed people and generate significant heterogeneities between firms” (Lockett & al., p 1133)
Scanning the RBV literature

Although resources play a central role in this particular view on sustained competitive advantage, resources are not conceptualized profoundly in the RBV literature. Definitions are vague, all-inclusive and differ enormously among the many publications that the RBV has produced. According to Barney, resources are the firm attributes that are valuable, while others (for example, Amit & Schoemaker, 1993) contend that every factor that is controlled or owned by the firm constitutes a resource even those that are weaknesses to the firm (Wernerfelt, 1984).

Such conceptual disparities lead to conceptual deficiencies concerning the notion of resource heterogeneity. How can we assess heterogeneous resources distributions across firms if we don’t know perfectly what resources are?

Nevertheless, the bulk of the RBV theorists have brought forward the concept of heterogeneity as playing a key role in the theoretical framework of the RBV. In her 1993 article, Peteraf develops a framework of competitive advantage that nearly consists of the same elements as that worked out by Barney in 1991, with resource heterogeneity as the basic condition proceeding the other three components, i.e., imperfect mobility, ex post limits to competition (which incorporates the imitability and substitutability concepts of Barney, 1991) and ex ante limits to competition (which is not included in Barney’s foundational framework). The author states that “the notion that firms are fundamentally heterogeneous, in terms of their resources and internal capabilities, has long been at the heart of the field of strategic management” (p 179), describes resource heterogeneity in two different market contexts (monopoly and a more complete competition situation, of which only the latter is considered here) and defines the term as “the ability of firms of varying capabilities to compete in the marketplace and, at least, breakeven” (p 180), after which she adds “Firms with marginal resources can only expect to breakeven. Firms with superior resources will earn rents” (p180). As we can deduce from these statements, Peteraf considers the earning of rents as the materialization of competitive advantage. When firms possess superior resources, which are limited in supply and thus rare, they incur less average costs and will be able to earn rents and thus obtain a competitive advantage. The concept of heterogeneity reflects the unequal distribution of superior and marginal resources among firms in an industry. Superior resources are scarce and this is the reason why inferior resources are also distributed, which contributes to a heterogeneous resource situation. Peteraf & Barney (2003) restate this argument as follows: “Resource heterogeneity implies that some firms have resources that generate more value than others. Those that support more value creation will generate rents, due to the scarcity of such resources relative to demand for their services” (p317).
Dierickx & Cool (1989) also provide an explanation for the existence of resource heterogeneity. They argued that as a result of the impossible acquisition of certain resources on the resource factor market, firms build asset stocks internally. This leads to firm-specific and therefore heterogeneously distributed resource endowments among firms. This conception is shared by Mahony & Pandian (1992) who state that “successful firms in most industries possess one or more types of intangible assets—technological know-how, patented process or design, know-how shared among employees, and marketing assets. Intangible assets are often subject to market (transaction cost) failure. Even if the firm can market its intangible assets effectively, it could not disentangle them from the skills and knowledge of the managerial team (Nelson and Winter, 1982). In summary, idiosyncratic physical, human, and intangible resources supply the genetics of firm heterogeneity” (p 370).

In general, the existence of intangible assets, managerial skills and co-specialized assets are argued to be the primary causes of resource heterogeneity, given the high levels of path-dependency, uncertain imitability (Lippman & Rumelt, 1982) and causal ambiguity that these resources imply.

Oliver (1997) argues that the RBV explains firm heterogeneity through the imperfection of resource factor markets, as stated by, among others, Barney (1986). However, the author also mentions that the RBV has failed to look beyond the characteristics of resources and factor markets to clarify differences in firm’s resource endowments. She states that resource heterogeneity is a result of these factors, but also of the social context which surrounds the process of resource selection within a firm. An organization is subject to different kinds of norms and values, regulatory pressures, etc. The selection of resources is also a process that is embedded within this social context and thus this context has a considerable impact on the heterogeneous distribution of resource endowments. This impact can be observed in the fact that “firms may be unwilling rather than unable to imitate resources and capabilities, especially when those resources lack legitimacy or social approval” (p 700). Oliver combines thus a resource-based perspective with and an institutional view on resource heterogeneity.

**Conclusion**

In summary, the concern addressed by Wernerfelt that strategy literature does not investigate the causes of resource heterogeneity proves to be a misjudgement. The works of Diericks & Cool and Mahony & Pandian clearly formulate their conception of how heterogeneous distributions of resource endowments come into existence.
Secondly, Sanchez’s critique that heterogeneity is not a workable concept survives as the RBV literature doesn’t provide a profound conceptualization of resources and their attributes and thus identification of resources remains a difficult task. If we cannot distinguish conceptually one resource from another, than heterogeneity (and the concepts of resource value and rarity) becomes, theoretically, an inoperable concept.

**Imperfect Imitability and Unique Historical Conditions**

Sanchez

The criterion of imperfect imitability is as little a good standard for identifying resources as sources of sustained competitive advantage as the criteria of rarity and heterogeneity. Again, the RBV falls short in describing a conceptual basis to determine whether a firm succeeded or not in imitating the functional and behavioral properties of another firm’s resource.

When it comes to unique historical conditions, Sanchez extends the logic of Conner and Prahalad (1996), and states that at some level of analysis all historical conditions that a firm might meet are unique. The author thus takes the edge off Barney’s argument about the inimitability of a resource and the subsequent potential for sustained competitive advantage based on the unique historical position of a firm when it acquired the space-and time-dependent resource. Sanchez grasps the uniqueness dilemma in these clarifying sentences: “If all firm resources are arguably unique and thus imperfectly imitable, and if all firm historical conditions are arguably unique, then it is logically impossible to use the VRIO criteria of imperfect imitability or unique historical conditions to distinguish a firm whose resources enable it to create a competitive advantage from a firm whose resources do not provide this benefit, because all firms will meet these criteria” (p 32).
Scanning the RBV literature

Sanchez may argue that every resource is unique and inimitable as a result of a historical path. However, as stated above, resources can be duplicated and deployed and, even if they are not perfect clones, can be used to implement the same strategies. Of course, in order to imitate a resource and its resulting strategy, a firm has to possess or build similar organizational conditions as its competitor whose success it tries to duplicate. In this context, Dierickx & Cool (1989) introduced the concept of asset stock accumulation. This process can take a long period of time, but, as Collis & Montgomery (1995, p 121) state: “Inimitability doesn’t last forever”. Even path-dependent resources, such as brand loyalty, can be imitated in the long run through slow and patient dedication to build them over time. In this lies the fundamental error in Sanchez’s reasoning. His critique that every resource at some level of analysis is unique constitutes already a far-fetched generalization. Even when we accept this, Sanchez still commits the error of considering every (unique) resource inimitable. As stated above, not every imitation must constitute a perfect clone of the resource it tries to imitate in order to get a resource that generates the same value, i.e., implements the same strategy. Moreover, Sanchez fails to consider imitation over a longer space of time, since in the long run even resources which have resulted from historically unique conditions are susceptible to imitation.

This argument is confirmed by Collis (1991) who states that, although “firms are at any time uniquely described by the set of assets they have accumulated” (p 51), “competitive imitation of these assets is only possible through the same time-consuming process of irreversible investment or learning that the firm itself underwent” (p 50). In other words, competitors can duplicate valuable resources through the same long-lasting accumulation of asset stocks as realized by the firm which holds the competitive asset stock. Of course, this doesn’t alter the fact that a firm’s strategic future is determined by its history and the valuable resources that it has acquired are thus highly path-dependent and as a result extremely difficult to copy.

As mentioned above, inimitability doesn’t last forever but according to Collis and Montgomery (1995) managers can anticipate imitation efforts by competitors through the construction of strategies around resources with one or more of the following properties: physical uniqueness (e.g. a unique real estate location), path-dependency, causal ambiguity and economic deterrence (by making high investments to deter the competitor).

Grant (1991) recurs to the term transparency to refer to the imitability of resources and capabilities. The more transparent the competitive advantage of a firm is, that is, the more transparent the information is about which resources and capabilities are responsible for that superior position, the easier it gets for competitors to imitate the firm’s strategy. The key to
sustained competitive success are capabilities that consist of complex interactions of resources to form a system which is difficult to unravel. Disentangling the capabilities of a competitor is nevertheless not a sufficient condition to imitate successfully the superior strategy of that firm. As Grant states: “Once the established firm or potential entrant has established the sources of the superior performance, imitation then requires amassing the resources and capabilities necessary for a competitive challenge” (p 126). Grant asserts that most resources and capabilities are not easily transferable between firms, which is in accordance with Barney’s fundamental assumption of resource immobility. Transferability can be hindered by geographical immobility, imperfect information and firm-specificity of resources. What is more, the transfer of capabilities constitutes an extremely difficult operation given the high proportion of tacit knowledge of which capabilities consists. Transferability bears on the ability of competitors to buy resources from a firm. However, a firm can also try to imitate a successful firm’s strategy by replicating resources and capabilities through internal investment. Replication of complex capabilities, if possible, takes a long period of time due to the lengthiness of asset stock accumulation (Dierickx & Cool, 1989). This implies that firms who already possess a highly accumulated asset stock, will maintain their superior position for a long period of time, since their competitors will have difficulties to gain on those firms.

As far as Barney is concerned, the fact that this concept of the VRIN (Value, Rarity, Imitability and Non-substitutability) – framework is not criticized by Priem & Butler (2001) constitutes the incontestable proof that the imitability concept is fully parameterized in the 1991 article and thus, testable statements can be derived. As a result, the criterion of inimitability is a theoretically valid and workable element of the RBV. The reason Barney chose this concept to parameterize the most is a result of the fact that the testable statements derived from this notion are the most important that arose from the RBV. Sustained competitive advantage is the central issue here and, thus, “the reasons why a firm’s valuable and rare resources can be costly to imitate become very important in the 1991 article” (p 45).

Consequently, the inimitability criterion, and the inability to duplicate resource endowments in general, is the centre of analysis in the RBV.

**Conclusion**

In conclusion, the sustainability of a competitive advantage depends on the extent to which a resource or a capability is able to resist duplication by competitors or potential entrants. Managers of a firm which possess resources or capabilities that are valuable and rare must
realize this and do everything to protect their valuable resources against imitation. They must build resources and capabilities in such a way that they are difficult to imitate, i.e., the resources must be durable, not transferable and not transparent.

Sanchez’s critique that at some level of analysis every resource is unique and thus becomes inimitable fails to take into account cases in which resources or capabilities are imitated in such a way that the same profitable strategy can be realized, without being perfect clones of the original resources. What is more, Sanchez overlooks the fact that even unique resources and capabilities which are the result of historical conditions can be imitated after a long period of time, provided that the causal relations between the resource and the resulting competitive advantage are obvious. Even though a firm’s historical conditions are unique, and thus its resources are unique, competitors can duplicate these resources and the strategy that is implemented by the firm in the long run. Inimitability of a certain capability is not a permanent condition, but it is the task of the strategic management to build valuable and rare capabilities in such a way that they can be protected against imitation efforts at least during large periods of time.
Sanchez presents the concepts of causal ambiguity (the strategizers don’t know how or why a resource is a source of sustained competitive advantage) and social complexity (a resource is a complex social phenomenon, difficult to create by firms which do not have the right attributes) as important factors of inimitability of resources. Sanchez indicates the cognitive impossibility resulting from these concepts in the RBV logic on p 35: “if a resource can be recognized (by managers or presumably researchers) as a source of sustainable competitive advantage, then it cannot be a source of sustainable competitive advantage. If only resources that cannot be understood by managers (or researchers) as sources of sustainable competitive advantage can be sources of sustainable competitive advantage, then it is not possible to engage in scientific research to verify such claims in the RBV’s core proposition”. According to Sanchez, the only factor which can explain past or future success is again luck.

Scanning the RBV literature

In extreme situations where managers are not able to discern a causal link between resources and competitive advantageous outcomes of their own firm, Sanchez´ critique that the only factor of success is luck can be seen as a the only explanation. However, the author does not allow for situations where causal ambiguity only applies to the competitors who are trying to imitate the firm’s successful strategy. This is also what Barney states in his 1991 article and what is argued by many other RBV researchers.

Some authors, such as Reed & Defilippi (1990) argue that causal ambiguity can exist in a situation in which “managers understand causal relationships better than their competitors, and where competencies can be manipulated for advantage” (p 91). The causal connections between a resource (bundle) and profitable outcomes can be causally ambiguous for strategists outside the firm for a certain period of time. Of course, after some amount of time, managers of competitors will be able to understand these causal links and “have sufficient understanding to attempt imitation” (p 91). As the authors state: “In itself, causal ambiguity does not guarantee that a firm will be able to maintain a competitive advantage, but it does create a very effective barrier to imita-
tion” (p 94). Reed & Defilippi mention three characteristics of resource bundles or capabilities\(^5\) that can be a source of competitive advantage and ambiguity: tacitness, complexity and specificity. A production process can contain little or much tacitness, which refers to the implicit knowledge with respect to the actions that an operator undertakes. The higher the level of tacitness, the more causal ambiguity arises between the actions of which a production process is composed and the outcomes of that process. In this case, imitation by rivals is difficult because of the fact that only very few people understand the causes of the firm’s success. A second characteristic, complexity, can also be a cause of ambiguity and competitive advantage that arises from the fact that competitors are not able to imitate a successful strategy. Again, the complexity of a capability or a combination of capabilities hinders the causal understanding of many employees within and, of course, outside the firm. In this case, again, only some understand how the complex relationships are linked together and how the competitive advantage is obtained and sustained. Finally, Reed & Defilippi mention that the business actions that result from resource and skill deployment (competencies) can be highly specific and interdependent with the firm’s internal or external transaction partners” (p 92). As a result, the specificity of these resource and skill deployments leads to ambiguity and, consequently, raises barriers to imitation. In a situation in which tacitness, complexity and specificity are all high, there is a maximum level of causal ambiguity and a great potential for sustaining the competitive advantage.

According to Dierickx & Cool (1989), causal ambiguity can be an important aspect of the inimitability of an asset stock accumulated within a firm in certain industries. Firms invest in stock accumulation without knowing exactly if they will “hit the jackpot” or not. This kind of ambiguity is thus also present with the managers of the firm that owns the asset stock. Luck is an important factor in this process, but the chances that firms succeed are higher in situations where the asset stock already has reached high levels. Therefore, causal ambiguity with reference to the accumulation of asset stocks can lead to varying levels of performance even within perfectly competitive industries.

As stated by Collis & Montgomery (1995), causally ambiguous strategies are mostly the result of organizational capabilities of which nobody knows what it is exactly or how it arose. However, even those capabilities may be subject to only temporary causal ambiguity, as, after a period of time, the managers of the firm, and eventually also their competitors may discover the origins of the capability.

\(^5\) Reed & Defilippi use in their article the term competencies to refer to “patterns of […] resource and skill that will help it [the firm] achieve its goals and objectives” (p 89, cited from: Hofer & Schendel, 1978, Business planning; Management; Organizational effectiveness, p 25, West Pub. Co. (St. Paul)). In our paper, we use capabilities to denote what a firm can do with a resource or a bundle of resources.
Conclusion

The developments on causal ambiguity in this section demonstrate that Sanchez takes an extreme position. Causal ambiguity can arise in many degrees between situations in which nobody, not even the managers of the firm itself, understands the causal connections that link capabilities to advantageous outcomes and situations in which exists a limited degree of ambiguity that is quickly neutralized by competitors. On the other hand, in situations where the managers of the firm which holds the causally ambiguous resource ignore the causal links between that resource and a competitive advantageous position, we have to agree with Sanchez when it comes to the low quality of prescriptiveness that this aspect of the RBV implies. Causal ambiguity and social complexity are important items in the RBV because of their descriptive power: they help clarifying why a successful strategy cannot be replicated. However, to build a valuable and well underpinned theory of competitive advantage, a causal link between a resource or capability and a profitable position of the firm must be evident in order to generate testable statements, which adds to the prescriptiveness of the theory.
An Asymmetry in Assumptions about Resource Factor Markets

Sanchez

In his 1997 article, Barney replaces the non-substitutability criterion for the concept of organizational embeddedness, in this way renaming the VRIN framework to VRIO. This concept indicates that a resource embedded in a given firm loses its potential to create strategic value when traded on the resource market and becoming embedded in another firm which means that this resource becomes immobile. The logical problem that arises in this case is that Barney assumes that every embedded resource can only create strategic value in that specific firm, while it is in fact very possible that a given resource can create even more strategic value when becoming embedded in another firm.

Scanning the RBV literature

In 1989, Dierickx & Cool argued that firm-specific resource bundle, i.e., bundles of resources that are created or built internally, possess the capacity to generate a sustained competitive advantage for the firm. They emphasize that accumulating these resource bundles, or asset stocks, is a difficult task and constitutes an effort that is staggered over large periods of time. The asset stocks that the authors discuss in their 1989 article are nontradeable assets such as know-how, reputation,… which represent assets that are profoundly rooted within a firm. As a result, Dierickx´ & Cools´ argument anticipates to a certain extent the critique of Sanchez that organizational embedded resources could be deployed with succes in other firms. It is difficult to imagine that the kind of resource bundles that are discussed by Dierickx & Cool could be embedded in another firm than the one that created them, since the creation of valuable non tradeable asset stocks constitutes a process which is very time –and effort –consuming.

Conclusion

In summary, when a strategically valuable bundle of resources is strongly embedded within the organizational structure of the firm, and more value is created than that of competitors as a result of this embeddedness, the succesful strategy of that firm will remain inimitable during a certain amount of time. Of course, the critique of Sanchez in not incorrect, but nuances must be introduced. The same resource bundle could generate a similar or even higher level of competiti-
ve advantage when embedded in the organizational structure of a competitor, but building up a similar resource bundle internally takes a lot of time.
A Scientific Critique of the RBV as a Testable Theory: The Epistemological Impossibility Problem

Sanchez

Given the conceptual and logical deficiencies which are described above, the RBV can’t be tested empirically because it doesn’t offer a conceptual basis for identifying resources that are sources of competitive advantage. Even if we put aside these conceptual deficiencies we find that the RBV still cannot be tested empirically, given the fact that two fundamental requirements of empirical testing, the reproducibility of experiments and falsifiability, are not met. The possibility of conducting experiments in similar contexts is considered to be impossible since every firm has different resource endowments. Given the fact that reproducing experiments is impossible and that the notion of resources in the RBV is inadequately conceptualized, the RBV core proposition cannot be rejected, for the simple reason that the propositions (e.g.; resource X is responsible for a given firm’s success) cannot be tested.

This critique is endorsed by Lockett et al. (2009) who state that every sample of firms is a heterogeneous sample and empirical studies are difficult to execute in such a context. What is more, empirical studies based on the resource-based view use a variety of definitions, methodologies and dependent variables.

Finally, the assumption of firm heterogeneity as a source of sustained competitive advantage is responsible for the fact that the RBV doesn’t have the capacity to induce generalizable statements with reference to the effects that firm resources exert on competitive outcomes. As stated above, in their 2001 article, Priem & Butler argue that the RBV is constructed on analytic statements, which means that these are true by definition, do not have any empirical content, are not generalizable and cannot be tested empirically.

As Sanchez states (p 40): “Given these impossibilities in using the scientific method in RBV research, the RBV’s core proposition directly results in the Epistemological Impossibility Problem: Taken at face value, it is impossible to use the scientific method – the accepted epistemology in academic research – to test the RBV’s core proposition in any scientific way, and thus to generate new knowledge or understanding about the role of resources in firms’ competitive outcomes. The ability to generate and test theoretical, generalized statements about resources as sources of sustained competitive advantage logically requires conceptual
characterizations of resources that would enable identification of the kinds of resources that can be sources of sustained competitive advantage in more than one firm’s context. In essence, making any theoretically meaningful and scientifically testable statements about the role of heterogeneous resources in firm success (or failure) will first require a conceptual characterization of firms and competitive contexts adequate to support testing across homogeneous populations of firms (not just in single firm contexts) and in various kinds of competitive contexts”.

**Scanning the RBV literature**

Nevertheless, many researchers have used the RBV to study sustained competitive advantage through empirical research. Studies such as that of Collis (1991) and Galbreath (2005) show that empirical studies are possible. Although Galbreath acknowledges that his research contains many subjective elements and that the results stem from a limited sample of Australian firms and thus do not generate generalizable conclusions which are valid for every possible firm, the author has demonstrated that testing the RBV in various firms can be done.

Rouse & Daellenbach (1999) develop a methodology to conduct RBV research. They argue that a researcher must infiltrate in the daily life of the firm to assess its valuable resources at first hand in order to be able to advise the managers of the firm in their choices concerning the resource base. This framework, just as every RBV research, however, shows that investigation obtains ex post results (resource X has already proven that it is valuable) and not ex ante results.

When it comes to the applicability of the RBV, Kraaijenbrink (2010) notes that the critiques are “overly academic” (p 353). Resource heterogeneity actually hinders the generation of generalizable statements, since it is difficult to generalize about uniqueness. However, the author argues that the RBV doesn’t need generalizable statements, but can generate useful insights about levels of resource uniqueness.

In the spirit of Kraaijenbrink, we argue that Sanchez´critique on the utilization of the scientific method in RBV research is too academic. The RBV has theoretical problems, but can provide useful insights to the strategic management of a firm. However, the fact that the scientific method cannot be used in the case of the RBV, doesn’t mean that the RBV is an inoperable set of ideas. The view is capable of explaining sources of competitive advantage ex post and can be seen as a heuristic for managers to determine and protect their valuable and rare resources. For the RBV to become a veritable scientific theory, it should be able to generate ex ante generalizable statements about the causal relations between certain resources or resource distributions wit-
hin a firm and its competitive advantage on the market-side. This is imperative if one wants to test the theory empirically. Another problem is the heterogeneous distribution of resources across firms, which causes problems when trying to reproduce experiments. However, according to Barney (2001), empirical tests using the RBV framework have been executed and in some cases falsification has occurred. This would of course mean that the RBV argument is not tautological. We stated above that the RBV remains tautological and thus we have to disagree with Barney on this point.

We must add that Sanchez wants to apply the scientific method as it is being used in natural sciences. Strategy research is a social science, just like economics, in which this method is difficult to apply. We will not enter into details with respect to this discussion, but we can say that Sanchez may be too severe in criticizing the theoretical deficiencies of the RBV. What is more, Mahony & Pandian (1992, p 363) argue that the RBV is “good management science” since the view stimulates “good conversation within the strategic management field”. The authors emphasize that the view encourages also conversation between different research perspectives in strategy research and that the RBV “presents an opportunity for dialogue and debate between scholars from different research perspectives” (p 364). The RBV is obviously a very popular view and research within the RBV context has proliferated during the 1990’s and beyond. This is an important aspect that argues in favor of the importance of the RBV within the conversation of strategic management.

**Conclusion**

As stated above, the RBV cannot use the scientific method to conduct research because there are no generalizable statements about the causal relationships between resources and competitive outcomes. What is more, the tautological character of the RBV statements hinders empirical testing and falsifiability, since the RBV argument is true by definition. When we take into account these considerations, we must conclude that the RBV is a useful view that helps managers to consider their resource base and to assess the value of their resources ex post, rather than a scientific theory of sustained competitive advantage. In addition, the RBV incites to rich discussions and fertile conversations within the field of strategic management.
Absence of a Chain of Causality

Sanchez

Another important deficiency of the RBV highlighted by Sanchez is the failure of the RBV to establish a chain of causality. Again the outsourcing problem emerges in that the RBV recurs to other theories of organization and frameworks in order to create a coherent set of concepts about how a firm’s resources and the multiple ways of implementing them contribute to the creation of strategic value. What is more, the explanation of the distinctions between human, organizational and physical resources as formulated by Barney (1991) is not included within the context of the foundational RBV. A basic requirement of scientific theory building is not met, the relation, i.e. a chain of causality, between potential resources and the creation of value, is not explained. Sanchez concludes by stating that “the practical consequence of this fundamental omission is that the RBV has no theoretical basis for providing consistent counsel to managers about how they might improve their skills in defining and implementing organizational processes for using their firm’s resources” (p24).

Other critical appraisals

In their 2001 paper, Priem & Butler refer to this conceptual deficiency as the *how questions* problem. The RBV fails to answer when, where and how certain resources can create strategic value and thus become a source of competitive advantage. The authors argue that the RBV must pass from a descriptive view to a prescriptive theory by focussing on answering questions such as “How can the resource be obtained? How and in which contexts does it contribute to competitive advantage? How does it interact/ compare with other resources?” (p 35).

This fundamental theoretical deficiency is often referred to as the *process black box* and is criticized by many authors such as, apart from Priem & Butler and Sanchez, Lockett et al. (2009), Galbreath (2005) and Sheenan & Foss (2007).

The problems that the RBV encounters in this connection will be discussed in the next chapter, which deals with the prescriptiveness of the theory.
Practical Implications of the RBV: Prescriptiveness and Operational Validity

Priem & Butler

A theory, or a view, is not interesting for the strategic management of a firm unless it has operational validity (the ability of a practitioner to implement the action implications of a theory by manipulating its causal, or independent, variables). Thus, a fundamental question for strategy researchers is the utility of the RBV in developing meaningful management tools in the form of actionable prescriptions for practitioners” (Priem & Butler, 2001, p 31). The definition introduced by Thomas & Tymon indicates that accurate and effective prescriptions within the context of the RBV include not only advise on obtaining valuable and rare resources to gain a competitive advantage, but also several criteria which make it possible to evaluate every alternative resource on each resource characteristic. As argued above, the RBV lacks conceptually adequate descriptions and cannot create a chain of causality, which leads to the failure of the view to generate prescriptions for strategy practitioners about competitive advantage. The criteria for imitability and substitutability, on the contrary, have been accurately described by industrial organization economics and thus prescriptions of sustained competitive advantage provide a greater operational validity.

Scanning the RBV literature

Barney (2001*, p49) recognizes that many of the attributes of a resource such as value, rarity, imitability, substitutability,…are not susceptible to managerial manipulation, but he is not convinced that the RBV has no managerial implications. On p 49 Barney establishes several situations which illustrate his point of view: (1) resource-based logic can be used to help firms with strategic disadvantages in their benchmarking practices in order to overcome this disadvantage, (2) the RBV can be helpful to the management of a firm that has the potential to gain a strategic advantage to overlook their resources and evaluate and understand the attributes of those resources with the objective to exploit their potential and in that way realize a strategic advantage and (3) the RBV as developed by Barney in 1991 assists in discovering, protecting and maintaining those resources that have all the attributes that lead to sustained strategic advantage. The author adds on p 50 an example of the resource-based reasoning in the case of the resource orga-


7 This term is introduced by Barney (2001a, p 48) with the objective to avoid the industry definition of competitive advantage as the generation of above normal returns. Doing this, Barney limits the RBV to a firm level analysis.
nizational culture, stating that if the strategic management acknowledges that this resource has the attributes that render it a source of sustained strategic advantage, they will not transform it or destroy it and thus the strategic advantage will maintain.

In spite of this, Barney admits in the same article that there are important limitations to the prescriptive power of the RBV, owing to the problem of causal ambiguity, but to a greater extent this limitation lies in the finding that “resource-based logic cannot be used to create sustained strategic advantages when the potential for these advantages does not already exist” (p 50). These two aspects prove that the resource-based logic integrates an important external validity, since sustained competitive advantage would be out of the question in a situation where causal ambiguity would not exist or when the theory would enable firms “to create sustained strategic advantages when the potential for these advantages does not already exist”.

Barney is not the only RBV researcher who is convinced of the prescriptiveness of this popular strategy theory. An author such as Galbreath believes in the fact that the RBV is prescriptive and has executed an empirical study to verify which resources are most important to a firm’s competitive success (Galbreath, 2005). His findings are that those resources and capabilities that exhibit great similarities with the VRIO-framework of Barney contribute the most to the success of a firm’s strategy. The author lists hierarchically the types of resources that matter the most: (1) capabilities, (2) intangible assets, such as organizational assets and reputational assets, (3) tangible assets and (4) intellectual property assets. Capabilities are of the utmost importance to a firm because of the high level of causal ambiguity that they are exposed to. Although Galbreath points out that the results of this investigation must be treated with caution, because of the limited scope of the research sample, this type of research reveals a prescriptive quality of the RBV given the fact that, based on this study, the attributes of various types of resources and their contribution to a firm’s success are described. A firm is advised to invest in their capabilities, such as the transfer of tacit knowledge across the firm, to develop their organizational assets, such as culture and corporate structure and to build strong reputational assets.

Sheehan & Foss (2007) extend the critique of Priem & Butler stating that the RBV lacks prescriptive power mostly due to the failure to account for the how questions, that is the process black box. They argue, like Priem & Butler, that the RBV can be a useful tool in determining why one firm outperforms its competitors, leaving unexplained how valuable resources contribute to this situation of competitive advantage. The authors claim that Barney’s (2001ª) defense does not satisfy the critique of Priem & Butler with reference to how resources contribute to value creation. Therefore they elaborated a model which incorporates the Porterian activity-based view in order to complement the RBV. This view consists in explaining a firm’s superior per-
formance, based on either cost leadership or differentiation, through the activities it executes. As Sheehan & Foss state, “The sum of the cost and value generated by each firm activity determines a firm’s relative cost and differentiation position relative to its rivals” (p 453). Porter has developed the value chain (see Figure 1, appendix 2) to assist strategic managers in the process of understanding the activities that are being deployed within a firm to generate value. What is more, this model helps them improve and implement their generic strategy (cost leadership or differentiation). The various activities can be compared to those of other firms at a first level of analysis. However, it is the activity driver that induces the competitive advantage created by a certain set of activities. Activity drivers are generic, structural factors that are more or less under management control, which impact the cost incurred or value delivered by an activity (Porter, 1985)” (p 453). They are abstract properties of an activity, for example, the location, the scale, … of that activity which have strong descriptive power and can be used by the management of the firm to assess their strategic situation compared to others. According to the authors, “activities and activity drivers can be configured to achieve profitable positions” (p 454) and thus add prescriptiveness to the RBV. They can be subject to managerial manipulation and improve value creation by either “using the drivers to improve the efficiency and effectiveness of individual activities” or “improving the fit at the level of the firm’s activity set” (p 454-455), which means that firms compare competitors’activity data to understand their competitive position and the competitive advantageous possibilities regarding the activity (drivers). Firms have to try to capture competitive positions that they do not have at the moment. This is a process that covers a long period of time.

This brings us to inquire to which extent the RBV and the above-described Porterian activity-based view are compatible? In spite of their different origins in strategy literature, both views consider the ways in which a firm gains and sustains competitive advantage at the firm level. The difference resides in the fact that the RBV departs from the control over unique resources while the activity-based view assumes that activity drivers are available to all participants in an industry. What is more, activity drivers are not the same as resources, because they are not possessed by the firm. Some strategy researchers, such as Barney, adopt a broad definition of resources and in this manner include activities and many activity drivers, such as location and scale, in that category. However, this all-inclusiveness (cf infra) hinders the prescriptiveness of the RBV and to obtain a higher level of prescriptiveness the RBV can only benefit from an integration with the activity-based view as a compatible element. Such an integration is advocated by Sheehan & Foss (2007) for three main reasons. Firstly the authors argue that activity drivers and activities are the link between resources and performance and this
linkage sheds light on the above-cited how questions. Secondly, the integration of activities neutralizes important deficiencies of the RBV such as a too static approach, the exogeneous determination of the value of a resource and the critique that the RBV focusses too much on individual resources instead of resource bundles. Lastly, according to the authors, the integration of the activity-based view grapples with the implementation problems of the RBV because “strategies are formulated at the activity level and are generally easily translated into detailed implementation plans; activity-based strategic plans already outline who will do what, and when” (p 458). Nevertheless, the complexity of an integration of this kind remains a notable disadvantage.

Another problem that hinders the operational validity of the RBV is the all-inclusiveness of resources. Priem & Butler criticize the fact that in Barney’s 1991 article nearly everything that has a connection with the firm can be a resource, which constitutes a hardly operationable assumption, given the fact that some resources, such as tacit knowledge, cannot be manipulated or are not important for the group (practitioners) for whom the prescriptions are designed and thus are of less interest to strategy researchers.

As far as Barney (2001a) is concerned, this broad inclusiveness “enhances rather than reduces the prescriptive implications of the RBV” (p 51), which is a consequence of the fact that the value of a resource depends on the market environment and thus a limited list of critical resources every firm must possess to generate sustained strategic advantage is not possible. The author states that “rather than limit its prescriptions to specific resources that can be identified, a priori, managers can apply resource-based logic to any resource whose value can be determined from the market context within which the resource is to be applied” (p 51). However, we do not agree with Barney on this point, since it is our opinion that a theory is more useful for the strategic management of a firm if it can apply to specific contexts and to specific groups of resources.

This brings us to a third aspect of the operational value of the RBV for strategy research, that is, context specification, which leads to statements such as The value of resource X is A in context Y, but B in context Z. The RBV is unsuccessful in specifying the context within it holds, despite the importance of contextspecification, which constitutes a significant aspect of a theory when it comes to its practicability. Priem & Butler (2001) seize the importance of groupspecification and contextspecification as follows: “Identifying specific resources that may be particularly effective for certain actors in certain contexts might be a helpful first step in establishing boundaries for (and contributions to) the RBV in strategic management” (p33).

Rouse & Daellenbach (1999) argue that in RBV research there is no unified methodology. The authors aim to propose such a methodology emphasizing the importance of restricting the
research field to “those differences between firms that competitors cannot duplicate […] or that competitors cannot duplicate closely enough to eliminate the advantage” (p 488). The reason is, of course, that to isolate those resources that are the sources of sustained advantage researchers must focus on the differences between the firms that exploit them and the others in a accurately specified context. Furthermore, the authors state that RBV research of competitive advantage needs its own methodology, since researchers tend to apply various heterogeneous prevalent research designs and methods. The fundamental problem is that, according to Rouse &Daellenbach, the research methods have not been adapted with the shift from environmental analysis to the study of intangible resource-based factors to explain sustained competitive advantage. In such a context, however large-sample studies are best avoided in order to focus on firms that perform better than the industry average.

In order to conduct resource-based research in practice, the authors hold on to a framework that begins with a firm selection process that consists of four stages: the selection of the industry (since firms in an industry are active on the same resource factor markets), followed by the division into strategic groups, the detection of performance variation among firms within the same strategic group and, finally, the selection of the high and low performers. This selection process clusters a small but relevant party of firms which can generate substantial and valuable data for the research of sustained competitive advantage, since it provides an accurate context in which research can be organized. The research itself should be conducted based on fieldwork and ethnographic study methods. The importance of this approach lies in that the members of an organization are not always aware of which resources constitute sources of sustained competitive advantage or these sources are tacit and can only be uncovered by intruding in the organization and its culture. The researcher must operate within the organization in order discover to which resources the firm owes its superior competitive position. In this way, researchers can single out sources of competitive advantage, even if they are part of the difficult to disentangle organizational culture. What is more, it is obvious that to discern resources that are sources of sustained competitive advantage one must assess them in the organizations themselves and not from the outside.

As stated by the authors, “Context is important for understanding and for applying advantage. Miller et al. (1997, p 76) demonstrate that ‘we need to be much more precise in specifying the contexts in which our findings might apply’. Results that could specify contexts of relevance would be of considerable theoretical and practical utility for strategists and other management scholars, but especially attractive and credible for managers and practitioners (Beyer, 1997)” (p 491).
Despite these attempts to enhance the prescriptiveness of the RBV, some authors state that the RBV doesn’t need to generate generalizable prescriptions. As Kraaijenbrink (2010, p 352) notes: “The RBV […] was never intended to provide managerial prescriptions (Barney, 2005). Any explanations the RBV might provide may well be no more than indicative yet still of value to managers, so we have no reason to oblige the RBV to generate theoretically compelling prescriptions”.

Conclusion

As to conclude, the prescriptiveness of the RBV remains a difficult issue. The RBV as formulated by Barney (1991) fails to include the causal connections between resources and profitable outcomes for the firm and in therefore constitutes a descriptive rather than a prescriptive theory. However, the RBV can help managers to identify ex post which resources are responsible for a superior competitive position of a firm and guide them in the process of resource development and protection. A major problem constitutes Barney’s all-inclusive approach, which limits the prescriptiveness of the theory. This difficulty can be overcome by limiting the group of resources that are included in RBV research. What is more, RBV research should determine specific contexts in which certain resources have a particular value, which also contributes to the prescriptiveness of the view.

As we have argued, within the RBV literature we find various propositions of methodologies and frameworks that may be helpful to enhance the prescriptiveness of the theory. Some authors are in favor of conducting RBV research based on an accurately specified context, which, in our opinion, leads to more valuable results with reference to the practicability of the view. Others intend to improve the theory in such a way that its components are suitable for managerial implications through, for example, the integration of an activity-based framework within the RBV. Such an integration improves the understanding of the causal links between resources and competitive outcomes, but nevertheless contributes to the complexity of the theory.

We thus contend that considerable conceptual work still needs to be executed in order to come to a perfectly workable and prescriptive theory. However, the RBV could also be considered a descriptive view that has value to managers when it comes to assessing a firm’s competitive situation and may not need to generate theoretical prescriptions.

Critique on the Static Approach in the RBV

Critical appraisal

In their critique, Priem & Butler (2001, p 33) draw the attention to another problematical aspect which applies to the bulk of the resource-based literature, that is, the static approach of the RBV developed in this research. In general, the RBV offers the following sequence of static arguments: “First, a […] theoretical statement […], that some resource can produce competitive advantage, is presented. Then the heterogeneity and, therefore, rarity of that resource are established. Next, resource value is demonstrated by asserting that the resource can produce competitive advantage. Finally, isolating mechanisms are confirmed, making resource replication difficult and thereby suggesting that the advantage may be sustainable” (p 33). A static approach of this kind has the disadvantage that the view is too descriptive, how-questions are not answered, the view has little operational validity if the independent variables cannot be manipulated, resources are argued to be valuable ex post, etc… and therefore remains at a highly abstract level of analysis. What is more, according to Priem & Butler, many RBV researchers fail to include the time component in their analysis.

Scanning the RBV literature

Barney (2001a) agrees with Priem & Butler that in some cases RBV research has developed static approaches to describe sustained competitive advantage. He disagrees, however, with their statement that his 1991 article displays a static RBV, especially because they also admit that Barney defined sustained competitive advantage in a way that a temporal component is integrated in this foundational RBV paper: “A competitive advantage is sustained only if it continues to exist after efforts to duplicate that advantage have ceased” (Barney, 1991, p 102). The author also aligns with Priem & Butler when it comes to emphasizing the need of dynamic strategy research and argues that this can be executed by either evolutionary economics or by adopting an equilibrium analysis. The latter is used by e.a. Barney (1991, 1986) and, fundamentally, consists in comparing an equilibrium condition of an economic system with its actual condition, which contributes to the understanding of that system’s dynamics. The evolutionary method of analysis compares the condition of a system at different time points. In general, RBV researchers “must usually adopt time series or some other form of dynamic analysis” (Barney, 2001a, p 52).
Another dynamic approach within the RBV literature is found in the 1989 article of Dierickx & Cool, who introduce the notion of asset stocks. These must be accumulated within a firm in order to generate a sustained competitive advantage. Since “the successful implementation of a strategy often requires highly firm-specific assets” (p 1505), a firm must build stocks of non-tradeable assets that have the potential of generating rents in the firm’s productmarket. These “strategic asset stocks are accumulated by choosing appropriate time paths of flows over a period of time”, which means that “the strategic asset is the cumulative result of adhering to a set of consistent policies over a period of time” (p 1506). The authors point out that these policies are required since strategic asset stocks erode over time, which makes their internal accumulation a difficult task. The argument that Dierickx & Cool develop is clearly dynamic since they incorporate in their analysis a temporal component.

This dynamic approach has important practical implications for strategy formulation. Managers who are aware of their competitive resource position, and thus know which resources constitute sources of sustained competitive advantage, must be conscious of the fact that that profitable position will erode as time goes by and that consistent and accurate investing in those resources is of the utmost importance. Collis & Montgomery (1995) illustrate this through the example of the Disney company. In the 1980’s, Disney’s new manager, Michael Eisner, noticed that the company’s commitment to animation, the most important capability of Disney, had eroded and therefore he invested in this capability (and thus, Eisner manipulated the independent variable). He succeeded to revive the company’s most competitive capability and consequently its competitive position.

**Conclusion**

In summary, the RBV tradition has developed not only static analyses, but also many papers in which a dynamic approach is adopted. Many RBV researchers include a temporal component in their analysis. This important element within the research design of RBV analysis can be found in the work of, among others, Dierickx and Cool and even Barney. Thus, when we consider such RBV contributions, we find enough elements to enfeeble the critique of Priem & Butler. However, in spite of a rather dynamic approach within the RBV research, the view maintains a poor prescriptive quality.
Conclusion

As we can deduce from the developments in this paper, the RBV still has a long way to go if it aspires to become a veritable theory of sustained competitive advantage. We have assessed some of the most critical appraisals of important aspects of the RBV and have come to the conclusion that considerable work still needs be done. Although the critical standpoints of Sanchez only consider the 1991 article of Barney, some of his critical appraisals prove to be applicable on the whole of the RBV literature. We will first give an overview of the assessments of Sanchez´critiques on the theoretical basis of the RBV. Table 1 on page 45 resumes these critiques and their evaluation. After that, we will assess the theoretical quality of the RBV.

Firstly, the incomplete conceptualization of resources result in theoretical deficiencies with reference to the applicability of the criteria of value, rarity, imitability and heterogeneity. These concepts are argued to be inoperable because RBV literature doesn´t provide a clear conceptualization of the characteristics of resources. Neither does the RBV literature establish an extensive parameterization of the fundamental criteria of value and rarity. We confirm this conceptual deficiency of the view since the many papers that have been produced about the RBV don´t deliver such a fundamental theoretical prerequisite.

Secondly, the determination of value remains exogeneous, in spite of the efforts of many RBV theorists to include environmental models within the RBV framework. The problem encountered in this connection is that in his 1991 article, Barney neglected the market-side while using it to determine the value of a resource. The same author had already developed on the market-side in previous articles and others have stressed the importance of linking the firm- and market-sides, but their arguments fall short with reference to the inclusion of environmental models within the RBV.

Next, we have to agree with Sanchez and other critics when it comes to the tautological formulation of the RBV´s fundamental argument. Scanning papers in the extensive RBV literature, no definition of competitive advantage satisfies the theoretical needs of synthetic statement formulation. The argument of the RBV that valuable and rare resources lead to competitive advantage and the definition of competitive advantage in terms of value and rarity hinder the falsifiability of the RBV in empirical experiments, since this argument is true by definition. To become an actual theory, the view has to deliver synthetic statements which can be subjected to falsification.
Table 1. Overview of the critiques and their assessment.

<table>
<thead>
<tr>
<th>Critique</th>
<th>Assessment</th>
</tr>
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<tbody>
<tr>
<td><em>Value conundrum</em>: value is determined exogeneously and leads to the elemental fallacy of the RBV as stated by Priem &amp; Butler.</td>
<td>We agree with Sanchez and Priem &amp; Butler: value exogeneous to the RBV.</td>
</tr>
<tr>
<td><em>Tautology problem</em>: the definition of competitive advantage is in terms of value and rarity, which in turn are defined as the sources of competitive advantage.</td>
<td>This problem is not resolved since the circular references remain: value is found in both the explanans and the explanandum.</td>
</tr>
<tr>
<td>Resource <em>rarity</em> is not a workable concept.</td>
<td>Resources are not sufficiently conceptualized and definitions of rarity are vague and un-complete.</td>
</tr>
<tr>
<td><em>Uniqueness dilemma</em>: at some level of analysis every resource becomes unique and imitable.</td>
<td>The existence of resource substitutes and the fact that in the long run, everything is imitable, even causally ambiguous resource bundles refutes this critique.</td>
</tr>
<tr>
<td><em>Heterogeneity</em> is not a workable concept.</td>
<td>Resources are not sufficiently conceptualized thus heterogeneity is difficult to assess.</td>
</tr>
<tr>
<td>The <em>causes for resource heterogeneity</em> are not established.</td>
<td>Internal asset stocks, superior and marginal resources, institutional factors can account for the existence of resource heterogeneity.</td>
</tr>
<tr>
<td><em>Cognitive impossibility dilemma</em>: causal ambiguity is not a workable concept to clarify inimitability.</td>
<td>Critique is too narrow since there exist many degrees of causal ambiguity.</td>
</tr>
<tr>
<td><em>Asymmetry in assumptions</em> about resource factor markets: a resource X embedded in firm Y can generate the same or even more value when it becomes embedded in another firm.</td>
<td>Correct, but only on a long-term basis</td>
</tr>
<tr>
<td><em>Absence of a chain of causality</em>: the process black box.</td>
<td>This critique is confirmed by the RBV literature: how questions remain a problematic issue for the RBV.</td>
</tr>
<tr>
<td><em>Epistemological impossibility problem</em>: the RBV cannot use the scientific method to test its arguments.</td>
<td>This critique is correct, since the conceptual deficiencies of the RBV hinder the falsifiability of the fundamental arguments and the generation of generalizable statements.</td>
</tr>
<tr>
<td><em>Prescriptiveness</em>: the RBV cannot generate testable prescriptions, and is therefore merely a descriptive view.</td>
<td>Correct: the RBV is not a prescriptive theory, but a descriptive view that describes causal relations ex post.</td>
</tr>
<tr>
<td><em>Static approach</em>: the RBV literature has developed mostly static analyses of sustained competitive advantage.</td>
<td>This critique is wrong: the RBV literature has produced many examples of dynamic analyses by including, for example a temporal component.</td>
</tr>
</tbody>
</table>

As a result of the tautology problem and the assumption of heterogeneity, Sanchez argues that the scientific method cannot be applied to test the statements formulated by the RBV, since
falsification is not possible and heterogeneous distribution of resources precludes the generation of generalizable statements and the reproducibility of the experiments. In spite of the fact that some RBV researchers have used the 1991 framework or similar theoretical constructions, we confirm Sanchez´critique when it comes to using the scientific method to test the RBV´s fundamental argument. However, we also are of the opinion that RBV research doesn´t need such a strictly scientific approach. Despite its scientific-conceptual deficiencies, the RBV constitutes a valuable tool for managers to evaluate the firm´s resources.

The above-mentioned deficiencies lead Sanchez and others to criticize the poor prescriptive quality of the RBV, due to the absence of a chain of causality within the view. Barney and other RBV theorists don´t specify a causal relationship between valuable resources and competitive outcomes. The authors state that such a relationship exists but fail to specify how this relationship comes into existence, which questions the prescriptive quality of the RBV. Various strategy researchers have tried to enhance the poor prescriptive quality of the RBV through context specification, exclusive definitions of resources or integration with other models or views. In spite of this, the RBV seems to be a descriptive view that draws its value from being a useful tool for managers to assess their resource base and proceed to a resource-based policy of protection, development or disposal of certain resources, rather than a scientific theory of sustained competitive advantage.

In addition to these points of critique, upon which we have agreed with Sanchez and other critics, we were able to refute other critiques such as the uniqueness dilemma, the cognitive impossibility dilemma and the critique on an overly static approach of the RBV. These critiques fall short because they only consider Barney´s 1991 article, which indeed constitutes a very important, yet not the only, theoretical contribution to the RBV. Barney´s foundational paper is just one of the bricks of which the RBV wall is constructed.

The uniqueness dilemma, i.e., the assertion that at some level of analysis every resource is unique and inimitable, doesn´t take into account strategic substitutes (resources that have the same funcionality, i.e., implement the same strategy) and the fact that in the long run everything is imitable, even currently causally ambiguous resource bundles.

Then, Sanchez takes an overly extreme stance with respect to the criterion of causal ambiguity. Although even Barney agrees with Sanchez that to be a cause of inimitability, the causal relations between a resource and its competitive outcomes must be ambiguous for both the firm and its competitors, we found that causal ambiguity exists in many degrees. Causal ambiguity varies between a situation in which the causal ambiguity is complete for all the parties and a situation in which exists a limited degree of causal ambiguity that is quickly neutralized by (poten-
tial) competitors. However, Sanchez´critique is justified when the first situation occurs: the fact that complete causal ambiguity is used as one of the major determinants of resource inimitability reduces the prescriptiveness of the RBV and perils its status as a valuable theory of sustained competitive advantage.

Next, as we described in this paper, many papers within the largely developed RBV literature adopt a dynamic instead of a static approach. Even Barney´s 1991 article, on which the critique of Priem & Butler concerning this topic is based, develops a dynamic analysis approach by integrating a temporal component when it comes to the criterion of inimitability.

Finally, with respect to Sanchez´critique on Barney´s introduction of organizational embeddedness in 1997, we state that although a resource can be embedded in another firm and generate even more value than it creates in the current firm and thus Sanchez´critique is not incorrect, such a procedure would take a lot of time, since the development of firm-specific resources and firm-specific conditions that are necessary to implement that resource is a very time-consuming process.

In conclusion, in spite of these refuted critiques, the RBV doesn´t constitute a veritable theory of sustained competitive advantage, due to the many conceptual deficiencies that still afflict the theorizing process of the view. The RBV cannot be tested using the strictly applied scientific method and thus cannot be considered a scientific theory. What is more, the view lacks prescriptiveness and generates primarily statements that are true only by definition. In this poor prescriptive quality resides an important limitation of the RBV for the strategic management of a firm: it is impossible to create sustained competitive advantage, using the RBV as the view doesn´t provide a conceptual basis to assess ex ante the resources that will be valuable and will contribute to the establishment of a competitive advantage.

This leaves us with the question whether the RBV constitutes a useful tool for managers in practice or not and how the RBV can contribute to the conversation of strategic management. We believe, and with us many RBV theorists, that the view contributes to the process of understanding the value of resources within a firm. The RBV can help managers identify their valuable and rare resources ex post and assist them in decisions about the protection, disposal and accumulation of resources to maintain their competitive advantage or to try to cancel out a competitive disadvantage. In general, the RBV sheds a different light on sustained competitive advantage and reminds managers of a firm of the important role that their resources play in the creation of sustained competitive advantage.
Furthermore, the view constitutes an opportunity for strategy research as it stimulates good conversation within the field of strategic management and incites theorists from different research perspectives to enter into dialogue.

The fact that the RBV generates ex post conclusions renders it a descriptive view and its value resides in this ex post description of the relations between a resource and its favorable competitive outcome. The lack of prescritiveness is obvious in that it is impossible to create the conditions for sustained competitive advantage using the RBV: the resource-based view of the firm is a very powerful descriptive guideline, but not a scientific theory.

If the RBV aspires to become a scientific theory, we suggest that further research concentrates on the questions how the reformulate the RBV’s argument so as to avoid a tautological structure, how to improve the conceptualization of (valuable and rare) resources and how to establish a clear chain of causality in order to enhance the prescriptiveness of the theory.
Appendix

1. Tables

Table 2. General characteristics of strategic industry factors (SIF)*: Amit & Schoemaker;*, 1993, p 36.

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Stock type Resources and Capabilities that ex post are shown to be key determinants of firm profitability in an industry;</td>
</tr>
<tr>
<td>B</td>
<td>Determined at the market level through complex interactions among industry rivals, new entrants, customers, regulators, innovators, suppliers, and other stakeholders;</td>
</tr>
<tr>
<td>C</td>
<td>Strategic in that they are subject to market failures and may be the basis for competition among rivals;</td>
</tr>
<tr>
<td>D</td>
<td>The bundle of SIF changes over time and is not known ex ante;</td>
</tr>
<tr>
<td>E</td>
<td>Their development takes time, skill, and capital; they may be specialized to particular uses;</td>
</tr>
<tr>
<td>F</td>
<td>Investments in them are largely irreversible (i.e., entail sunk costs);</td>
</tr>
<tr>
<td>G</td>
<td>Their values deteriorate or appreciate, over time, at varying rates of change;</td>
</tr>
<tr>
<td>H</td>
<td>Their pace of accumulation may be affected by a range of managerial actions (policy levers) and by the magnitude of other Resources and Capabilities that are controlled by industry rivals. One cannot easily speed up their development (e.g., doubling the investment will not usually halve the time);</td>
</tr>
<tr>
<td>I</td>
<td>Their value to any particular firm may depend on its control of other factors—the complementarity property. For instance, the value of a firm's product design capability may depend upon the effectiveness of its distribution network;</td>
</tr>
<tr>
<td>J</td>
<td>Not all aspects of their development and interactions will be known or controllable.</td>
</tr>
</tbody>
</table>
2. Figures

Figure 1. Value Chain (Porter).
Bibliography


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