WHICH TYPES OF RESOURCES ARE NECESSARY TO ACHIEVE COMPETITIVE ADVANTAGE?

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ABSTRACT

The most important finding from this study is that socially complex intangible capabilities such as group routines have a positive impact on performance. According to our results, complementary factor markets for valuable resources do exist and their acquisition cannot be reduced to information asymmetry. We propose that causal ambiguity is about making difficult decisions with inherent trade-offs rather than about lack of understanding.

INTRODUCTION

A crucial issue of the resource-based view of the firm (RBV) is predicting which types of resources are most significantly associated with firm performance (Barney, 1991; Conner, 1991; Wernerfelt, 1984). So far, research efforts have focused on individual resources as the unit of analysis. In general, only certain resources were selected in order to study resource effects on performance; often only one resource or capability was specifically studied (Newbert, 2007). Common to RBV research is that only the direct effects of resources on performance have been studied. These studies rarely unbundled which particular resources (where several resources existed) actually explained differences in performance (Hoopes, Madsen and Walker, 2003). This approach has its potential problems. First, a focus on individual resources in isolation does not take into account other important resources, and also ignores the interactions of different resources on one another. Second, the focus on only the direct influences of resources on performance assumes a straightforward link between resources and competitive advantage, which contradicts an important assumption of the RBV: causal ambiguity.

In this study, we concentrate on three important issues of the RBV: we test the influence on performance of different resources and capabilities - the role of internal resources versus acquired ones, the role of group routines, and the role of path-dependent managerial effects. With the variables chosen, we also test all levels of the RBV (Winter, 2000): single resources, capabilities and meta-capabilities. Finally, we analyze the indirect effects of resources on firm performance by addressing issues of trade-offs and reinforcing effects.

THEORY AND HYPOTHESES

Internally developed resources and factor markets

The RBV assumes that a firm gains a competitive advantage by possessing and exploiting unique resources. According to Barney (1991), mobility of valuable resources would mean that most firms could possess the same resources and thus no firm could develop a value creating strategy not easily matched by other firms. Peteraf's assumption of a second-best use of acquired resources is less strict, and implies that internally developed resources and capabilities are, at the least, more valuable than acquired resources. Acquired resources are, at most, a second-best option that leads to the suboptimal use of resources (Peteraf, 1993).

H1: Internally developed resources will influence performance more strongly than acquired resources.

It had been argued that firms need to develop value creating strategies that reside in the whole value chain of a firm and that exploit also linkages between the elements of the value chain in order to create a complex competitive advantage (Barney, 1996). The complexity of a competitive advantage increases its sustainability, because imitation means to imitate the complete resources bundle. The more complex the resource bundle, the higher is the likelihood of causal ambiguity (Hall, 1997). Under the assumption of complex resource bundles, the same resource can have different values for different organizations. Therefore, factor markets for valuable complementary resources can exist, thus creating a market. The value of resources is firm-specific: the question is not about different expectations of the future value of resources due to information asymmetries (Barney 1986a), but about the objective of achieving different value from a resource for a specifc firm.

H2: Complimentary resources from factor markets will positively influence firm performance.

Path-dependent managerial effectiveness

Once competitive advantage has been laid out through a firm-specific resource bundle, the second step is to integrate that bundle by transforming it through path-dependent processes that culminate in higher-order capabilities. Path-dependency means that resources and capabilities are acquired through time (Dierickx and Cool, 1989) or because of particular historical circumstances (Barney, 1991). Research on ice hockey showed that managerial effects only set in effectively after a team's second season under a new coach (Rowe et al., 2005). Other research found that managerial effects are positive for at least 10 years (Hambrick, 1991). Given that ten years of tenure is a rare exception in European soccer, we can assume that there are only positive path-dependent effects.

H3: Managerial effects will (path-dependently) positively influence firm performance.

Resource hierarchies: resources and capabilities

Capabilities arise through the combination of resources (Hall, 1997). Routines are organizational capabilities that include tacit knowledge through learning and repetition (Helfat and Peteraf, 2003; Winter, 2000, 2003). Group routines are not only subject to time-diseconomies but they are also socially complex. They are necessary to coordinate inter-dependent activities (Cohen et al., 1996) and the result of firm-specific learning processes (Amit and Schoemaker, 1993; Dierickx and Cool, 1989). In the case of soccer, the outcome of group routines can be a team's distinctive playing style (Berman et al., 2002).

H4: Group routines will positively influence performance.

Interaction of resources: trade-offs and reinforcing effects

Trade-offs arise when activities are only partially compatible, and this means that "more of one thing necessitates less of another" (Porter, 1996:68). Trade-offs create important constraints for the development of a firm's strategy (Thornhill & White 2007, Porter 1996). Under the assumption of scarce resources, therefore, the decision to develop resources internally or to acquire them from outside constitutes a trade-off (Chandler, 1962): the more you buy, the less you develop internally.

H5: The extend to which firms acquire resources will have a negative impact on the development of internal resources.

The opposite of trade-offs are reinforcing effects: The strength of some resources can be dependent upon interactions or combinations with other resources (Collis, 1994; Foss, 1998; Lippman and Rumelt, 2003). Capabilities usually necessitate long-term investment in specialized resources, requiring substantial continuity in terms of personnel and firm infrastructure (Winter, 2003). Therefore, resources that are strongly tied to the organization such as internally developed resources should reinforce capability development. Individuals, e.g., that have made their whole career with the same organization could be considered ambassadors: they have internalized the organization's norms and help to reduce task conflicts (Jehn, 1995); they promote the social integration of other team members (Smith et al. 1994), and they can serve as an effective means of communication between top management and the rest of the team (Malone, 1987). As a consequence, they help to integrate diverse resources, thereby favoring the development of group routines.

H6: Internally developed resources (in contrast to acquired resources) positively influence group routines.

Concerning managerial effects, we can distinguish between two mechanisms: resource selection and allocation and capability building (Makadok 2001). Managerial effects concern the development of internal resources and capabilities such as routines. Continuity of investments and of development methods is essential for the development of firm-specific resources as well as for routines (Winter, 2003). These managerial effects on resources are supposed to be path-dependent (Hambrick, 1991; Helfat and Peteraf, 2003). Path dependent managerial effects should act on inter-

nally developed resources as well as on group routines, since both are tightly bound to the specific organization (Berman, Down and Hill, 2002).

H7a: Managerial effects will (path-dependently) positively influence the development of internally developed resources.

H7b: Managerial effects will (path-dependently) positively influence group routines.

METHODS

Soccer clubs are being increasingly transformed into for-profit organizations, and the financial resources available to them depend largely on the brand value of the club. As firms, soccer clubs need to acquire, develop, assemble and transform resources and capabilities (Rouse and Dellenbach, 2002) in order to achieve team performance, which highly correlates with financial performance (Lechner and Schmidt, 2002).

Our sample consists of teams that competed in the first division of the professional soccer leagues in Germany, Italy, Spain, England and France between 1998 and 2002. The 129 different teams represent the entire population of first division teams over the observation period.

RESULTS AND DISCUSSION

Figure 1 and Table 1 give the results of the PLS model testing. The R^2 for the latent variables in the model ranged from 0.04 to 0.27 and is comparable to values typically reported in performance research using PLS (e.g., Lee and Tsang, 2001; Fornell, Lorange and Roos, 1990).

According to the RBV, gaining competitive advantage on the basis of superior resources is firm-specific. Therefore, there are no factor markets for valuable resources and, in consequence, resources developed in-house are preferable to those bought from the factor markets (Barney, 1996). We could not find any support for the hypothesis that fully internally developed resources should have a significant positive impact on performance: indeed, internally developed resources had no significant impact on performance. We found a positive relationship between relevant industry experience accumulated before joining the club and performance. Valuable experience can be bought on factor markets and can impact performance. Thus, factor markets do exist. Furthermore, our data suggest that factor markets can be a substitute for the lack of internally developed resources: there is a clear trade-off between the development of internal resources and the acquisition of resources.

Both firm-specific intangible resources (group routines) and industry-specific intangible resources (individual routines accumulated in the industry before joining an organization) had an impact on performance. According to our findings, we need to acknowledge that factor markets for valuable resources do exist and that the acquisition of valuable resources from factor markets cannot be reduced to information asymmetry (all clubs have an intelligence system for monitoring other players) or luck. Clubs buy players from the factor market with their financial resources (but without offsetting financial performance), and the transformation of these resources through group routines can lead to a competitive advantage.

We also found that cultural heterogeneity can add value in acquiring resources (Barney, 1986b). This is an important finding in support of the resource-based view. It indicates that a combination of heterogeneous resources—and therefore more complex resource bundles—can lead to a competitive advantage. Another important finding from this study is that intangible, socially complex resources such as group routines have a positive impact on group performance, therefore replicating and confirming similar research (Berman et al., 2002). In the resource-based view of the firm, the stock of firm-level routines is often considered to be a potentially valuable intangible resource protected by isolating mechanisms and therefore a factor for a possible sustainable competitive advantage (Dierickx and Cool, 1989; Reed and DeFilippi, 1990).

We found direct positive path-dependent managerial effects on performance. We can interpret these findings in terms of the distinction between two dimensions of management, namely resource selection, allocation and planning on one hand, and resource management on the other hand (Robbins and Coulter, 1999). Management means achieving goals by coordinating the work of others (Robbins and Coulter, 1999). We found some significant impact of managerial effects on the development of internally developed resources, but no significant impact on the development of group routines. In our study, the managerial component of selecting and allocating resources was more important than managing resources.

Our study shows that group routines have the highest direct impact on firm performance, and that internally developed resources have limited or no direct impact. Does that mean that firms should not invest in internally developed resources? Not necessarily, as internally developed resources (enhanced by managerial effects) have the strongest interaction effect on group routines, i.e. internally developed resources help to build strong group routines. Therefore, not investing in internal resources can be a mistake, not because of its direct performance effects, but because of its impact on other resources. In our view, causal ambiguity is more about weighting complex interactions between resources, and therefore about managerial insight, rather than about a general lack of understanding of the sources of performance.

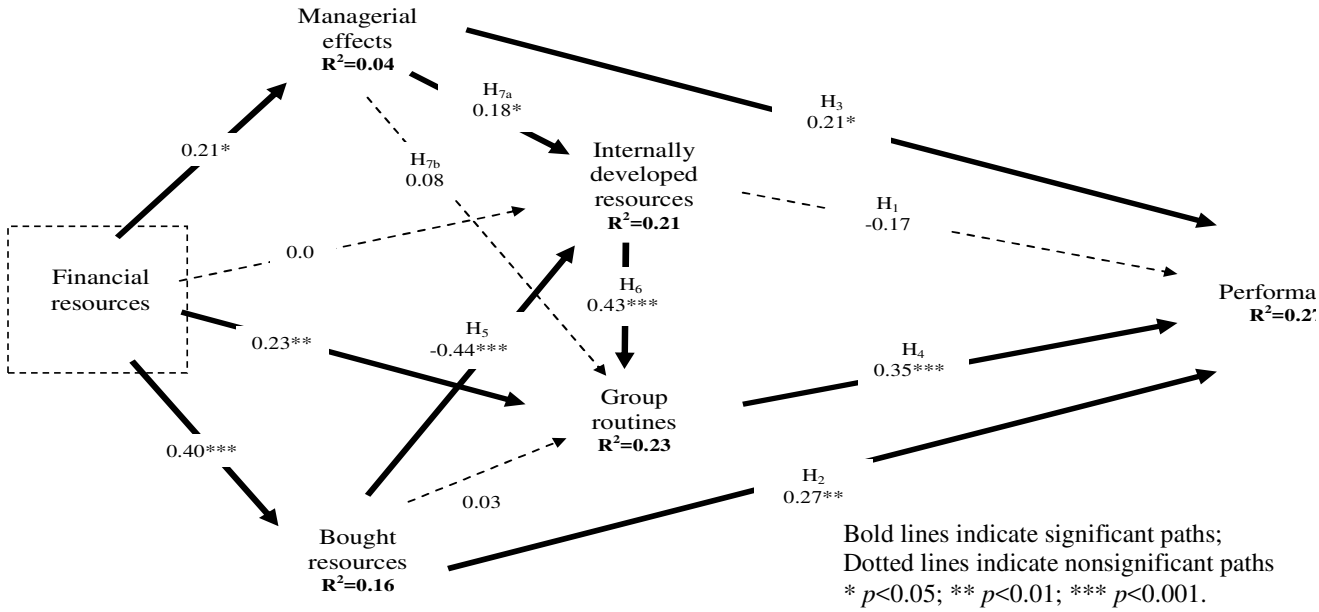

Figure 1. Summary of results

Table 1. Results

Hypotheses tested	Path coefficient (Direct effect)	s.d.	t-value for path	Indirect effect	Total effect[a]
Internally developed resources -> performance	-0.17	0.10	1.60		-0.17
Bought resources -> performance	0.27	0.09	3.07**	0.02	0.29
Managerial effects -> performance	0.21	0.09	2.26*	0.01	0.23
Group routines -> performance	0.34	0.08	4.28***	0.01	0.35
Bought resources -> internally developed resources	-0.44	0.08	5.24***		-0.44
Internally developed resources -> group routines	0.43	0.10	4.06***		0.43
Managerial effects -> internally developed resources	0.18	0.10	1.83*		0.18
Managerial effects -> group routines	0.08	0.11	0.65	0.07	0.15
Control paths					
Financial resources -> managerial effects	0.23	0.10	2.01*		0.23
Financial resources -> bought experience	0.40	0.07	5.62***		0.40
Financial resources -> group routines	0.23	0.09	2.47**		0.23
Financial resources -> internally developed resources	0.02	0.10	0.14		0.02
Bought resources -> group routines	0.03	0.10	0.25	-0.13	-0.16

[a] Total effect=direct effect + indirect effect. The relative importance of the direct and indirect effects is shown; * $p< 0.05$; ** $p< 0.01$; *** $p< 0.001$.

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