(On the path) Towards a dynamic framing of specificity:

Asset deployment and competitive actions in emerging industries

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ABSTRACT

This work highlights that asset specificity is not static but changing over time and thus, at least in part, dependent upon strategic management. Further, we craft strategies aimed at changing or maintaining of specificity as central to a firm's competitiveness. Thus we build on but also depart from contemporary management research in important ways. Specifically, Transaction Cost Economics and the Resource-based View portray specificity – due to mainly conceptional reasons – as a static concept, implying a limited scope for strategic action. Drawing on a comparative case study from the German health care sector and using emerging co-evolutionary theories our core contribution is thus a dynamic conception of specificity better suited to opening up the concept to theorizing strategic action. Hence we emphasize strategic management and suggest that specificity co-evolves with industrial emergence and change over time. We conclude that specificity enables strategic action as specific resources and competences cause a company to engage in market and non-market activities.

INTRODUCTION

Seizing business opportunities most often goes along with significant investments under (radical) uncertainty. These differ not only in their financial scale, but also in the range of conceivable uses of the assets which an entrepreneur has invested in. Most investments imply a specific application scenario of the assets and thus they can be employed only limitedly for alternative purposes. This is known as the specificity of the investment (Williamson, 1985), which has become known as a critical resource characteristic. However, the degree of specificity has two-folded implications for the resource owner in terms of benefits and risks. On the one hand specific assets might include productivity gains of special purpose machinery and an increased willingness to pay once customers perceive a supplier as unique due to its specific assets (Williamson, 1985, 1991). On the other hand, these benefits can only be realized under very narrow environmental conditions. Thus the pay-off of highly specific resources depends much more on environmental conditions than that of resources with lower specificity (Helfat & Lieberman, 2002). Seen it this way, high specificity is likely to lead to a company's commitment to certain resources which are expected to pay-off in one scenario and thus to a potential lack of flexibility once the scenario changes (Ghemawat & Del Sol, 1998).

Major risks thus emerge when these conditions change and the superior value of highly specific resources might decrease dramatically (Habib & Johnsen, 1999). It can be argued that these benefits and risks indicate that specificity impacts organizational competitiveness substantially by either increasing productivity or limiting managerial agency. This is especially true in emerging industries and their corresponding architectures which are characterized by a high degree of environmental turbulence including uncertainty and change (Jacobides, Knudsen & Augier, 2006; Santos & Eisenhardt, 2009). Against this background, our work is designed to answer the research question: *"(How) Can specificity be managed in turbulent environments?"*

THEORY

There are several approaches addressing the specificity of resources. Probably the most prominent notion of specificity is put forth by Transaction Cost Economics (TCE), which highlights the explanatory power of specific resources to the governance of transactions (Williamson, 1985). It shows the need for managerial action when possessing specific resources and being faced with uncertainty in terms of defining efficient firm boundaries.

Although uncertainty and resulting changes in a firm's environment are considered, TCE is a rather static approach, where all decisions are theoretically framed to be made at one single point in time only (Slater & Spencer, 2000). Second, the Resource-based View explains competitive advantages by alluding to the specificity of a firm's resource base (Amit & Schoemaker, 1993; Barney, 1991). However, here it is the mere possession of specific resources that creates competitive advantage. Thus the theory's focus is resource acquisition. Few is being said about the management of these resources, especially in the case of changing environmental conditions (Sirmon, Hitt & Ireland, 2007). A commonality of the RBV and TCE, however, is that specificity is addressed as a more or less objective characteristic of the resource itself and therefore it seems out of the firm's control.

First insights on how specificity can change are rooted in more non-mainstream fields. These are the classic resource approach by Penrose (1995) and the Capital Theory from Austrian Economics (Lachmann, 1947, 1978). Both refer to specificity as the variety of different uses a resource can be applied to. Furthermore, they show a dynamic perspective on specificity as the resource owner has the ability to discover new uses for existing resources and redeploy those. These approaches also put emphasis on the problem of environmental change and its consequences in terms of the disappearance of existing deployment options. Regarding the management of specificity managers and entrepreneurs begin searching for new ways to deploy their existing resources as soon as the old ones disappear. Hence the latter theories seem to be viable approaches to the framing of a dynamic understanding of specificity, especially as authors recently developed joint considerations of resource-based approaches, Austrian Economics and partially Transaction Cost Economics. Within that field we draw on the Competence-based theory of the Firm (CbTF) as a conceptual framework, which is co-evolutionary in nature and also rooted in Austrian Economics and the resource and competence based field of strategic management (Freiling, Gersch & Goeke, 2008). It emphasizes the role of entrepreneurial action but also the firm-environment interrelation. Both aspects can highlight the management of specificity in turbulent environments.

The aspect of entrepreneurial action includes the acquisition as well as the handling of resources (Klein, 2008). Regarding the first we suppose, that the degree of specificity is the result of deliberate action. Despite their static character TCE and Resource-based View allude to the value creating potential of specific assets as they promote the competitiveness of firms but also enable them to engage in business transactions. Taking account of the potential

commitment to future, yet unknown market conditions on the one hand and the low degree of re-deployability of specific resources on the other hand we conclude the following for the investment decision:

> ***Proposition 1:*** *Firms invest in specific assets under uncertainty, when the expected benefits outweigh the risks of assumed commitments in the future.*

The handling of resources comprises the firm's ability of experimentation and discovery of new resource characteristics such as their uses and options for deployment (e.g. K. Foss, Foss, Klein & Klein, 2007; N. Foss & Ishikawa, 2007). In the context of turbulent environments and the risk of a decrease in asset valuation, this means that firms who expect or experience market shifts and hence varying first-best uses will begin to look for new knowledge on alternative uses of their resources. This leads to the following conclusion:

> ***Proposition 2:*** *The higher the perceived degree of a firm's specific resources and the higher the turbulence of its environment, the more it will engage in searching for alternative uses for its resources.*

However, creating alternative uses for resources and finally their redeployment might imply considerable costs causing an inefficient redeployment process. Additionally a firm might lack sufficient knowledge of identifying alternative uses or of applying the resource appropriately the redeployment of resources might not always be the best strategy.

As environmental conditions have a major impact on a resource's value, other strategies in the handling of specificity might include the attempt to shape the company's environment itself (Freiling, et al., 2008). Existing research already addresses the ability of entrepreneurs and firms to exert influence on their environment (e.g. Smith & Cao, 2007) and most often refers to non-market actions (e.g. lobbying or public affairs management) in strategic management (Baron, 1995). In the case of managing specificity, non-market strategies might serve two major goals. First, they can engage in blocking-off or slowing down potentially disadvantageous (resource devaluating) developments. This is most often the case when firms expect their environment (e.g. the industry) to change or it is already changing, resulting in a conceivable loss of the first-best use. Second, firms can identify alternative uses for existing resources as stated above but due to environmental constraints (e.g. regulation) the actual

employment of the resource is unfeasible. Then the firm will foster the legitimization of those alternative uses. Hence, we arrive at our last proposition which can be formulated as follows:

> ***Proposition 3:*** *The higher the degree of a firm's specific resources and the higher the turbulence of its environment, the more it will engage in shaping the environment and its development to secure first-best usages and/or create new second-best usages.*

METHODS AND DATA

Our research was designed as a qualitative multi-case study focussing on the German health care sector (Eisenhardt, 1989; Yin, 2009), to describe and identify relevant patterns and processes of managing specificity within the firm-environment intersection (Flyvbjerg, 2006; Gephart, 2004). The German health care sector is becoming increasingly more metrics-driven since statutory health care funds face deficits raging in the billions. Hence, a market is literally emerging as statutory health care funds rely more and more on strict economic evaluations of medical practices and medical practices become more and more subject to pricing and private market coordination. Hence we considered this field to offer intriguing insights into a dynamically evolving industry.

The data collection was carried out between May 2010 and November 2011. It began with two surveys as pre-studies. Both touched on the emergence and diffusion of new business models in the German health care sector with an explicit focus on required investments to create new business models, their degree of specificity and changes on the industry level. The results of the pre-studies served as input for further data collection especially conducting interviews and creating themes for analysing our data. The main study considers market and non-market strategies of two companies from the health care sector between 2005 and 2011. Both companies were founded in 2005 and realized new business models in emerging parts of the health care industry. The companies were chosen due to their promising prospects of managing specific investments as both build on the idea of transforming lessons from servicing health care in one region to other regions. Whereas one firm is a medical service provider primarily investing in tangible resources such as facilities and equipment, the other is a management firm primarily investing in non-tangible resources such as concepts and programs for the treatment of patients. Our data comprises 27 interviews in German with company representatives and secondary data in the form of 87 press articles and 95 other company documents. The interviews were semi-structured. Hence an interview guideline was

used, which was based on the results of the pre-study but also on our conceptual framework and the propositions. All excerpts from interviews in the following are translated from German and emphasized in italics.

As suggested by Miles & Huberman (1994) the process of data analysis has been done in two major steps. First, every case was analyzed separately in the within-case analysis. The very first step was the coding of the data. Before beginning the process of coding we developed a priori codes with rather broad themes stemming from our conceptual framework and the pre-studies' results. During the process of coding the codes were refined and again applied to the data (Coffey & Atkinson, 1996). Regarding one of the main objectives of our study, a dynamic perspective on specificity, the degree of specificity in the data was indicated by the range of possible alternative uses a resource could be applied to. The higher this range, the less was the degree of specificity and vice versa. Thus, a change in the degree was indicated by emerging or vanishing deployment options. In the next step the coded data was organized and analyzed in two different ways. First, a time ordered matrix was used for each case to display the main events on the industry level and the main activities on the firm level such as investments and strategies (Miles & Huberman, 1994). As this offers a comprehensive overview on the data but provides very limited insights in cause-effect relations, arrow and flow charts were created from the data additionally, focussing on a detailed process perspective within each case (Langley, 1999). As a last step the results of the two cases were compared in the cross-case analysis and conclusions were drawn on the more abstract level, identifying the emergence of pattern related to specificity.

RESULTS

Overall our results show that the degree of specificity and its resulting commitments can be regarded as the consequence of managerial choice but also as a result of environmental change. This was of major relevance in four aspects with regard to the emergence of new business models in our study:

Regarding our first propositions the findings shed light on the **investment decision** and the choice between different degrees of specify as firms have the opportunity to engage in adjusting the commitment of their investments towards future market conditions. The study showed that the balancing of the benefits against the risks inherited in the resources was not realized by deciding on the degree of specificity only but also by varying the financial extent

of the investment. For example one representative of a firm, that made highly specific investments, said „*we just bought a small piece in [A-Town]. Hence I think the risk was quite manageable and the chance was certainly high*". Thus one strategy was investing to a very high degree of specificity, but only to a limited amount, to get a first access to the market and keep the risk on a low level.

Second, **environmental turbulence** (e.g. changing regulations or market entry of competitors) can cause the disappearance of existing deployment options and thus increase the degree of specificity as the range of deployment options decreases. As supposed in our second and third proposition specificity serves as a driver of two potential actions in that situation. The first is the engagement in market strategies in terms of searching for new deployment options and then redeploy its resources. Second, the management can perform non-market actions and by that trying to influence the industry's development. In our study this was done for instance by exerting influence on changing regulations or key opinion leaders in the industry. However, the study showed that there are several factors explaining the choice between either market or non-market strategies. Firms for example that gain advantage from a high degree of specialization (e.g. superior payments) are rather motivated to preserve those benefits and engage in non-market strategies. One interviewee said they could offer more general and thus less specific services, *„[b]ut that is something we don't understand, since we've never done it, we've allways been a specialized facility."* However, it has to be mentioned that market and non-market actions are not mutually exclusive, but can also be realized simultaneously.

Furthermore it turned out, that the **redeployment** of existing resources was the least favourable reaction to changes occurring only once, when the management expected non-market strategies being not successful at all. Nevertheless, the study showed that the redeployment of resources is of high relevance in two areas. First, it is part of the investment decision, as the extend to which the investments were expected to be redeployed in the growth process following the market entry increased the willingness to invest specifically. Hence investments tended to be more specific, when there was the perspective, to create new deployment options for investments in terms of deploying their resources additionally at new locations. Second, although this activity known as replication was the major way of creating new deployment options in our study, other ways of redeploying existing resources were also found. This includes the creation of new services using existing facilities, concepts and

employees. However the rationale behind those consisted in differentiation from competitors and product diversification, providing them in addition to existing services only.

Last, our data showed the need to refine the term of environmental turbulence and hence distinguish between change and uncertainty as both cause different pattern of **non-market actions** to manage specific resources. Changes in a firm's environment were specific events being associated with a quite clear understanding of their consequences. Non-market actions as a reaction to changes were identified in a stimulus-response pattern. In the case of changes their consequences were expected to threaten existing deployment options. Thus the purpose of non-market actions caused by changes was to secure existing deployment options by blocking-off change. In contrast uncertainties in the firm's environment resulted in ongoing and rather unfocused non-market activities aiming at influencing industry development in a favourable direction. Those developments aimed for dissolving uncertainty and create new deployment options for existing resources. In one case for example there was high uncertainty about the legal definition and payment structure of the offered service. Thus firms engaged in non-market activities as approaching politicians aiming at *"establishing that service type in the way that it is accepted and […] reimbursed"*.

CONCLUSION & OUTLOOK

Overall the study shows how the specificity of resources affects firm action in the investment decision but also later, when faced with environmental change and uncertainty. Our study highlights the importance of a co-evolutionary understanding of specificity, where the degree of specificity is mutually shaped by a firm's environment but also by the firm itself. In contrast to existing perspectives on specificity, where management decisions (e.g. defining firm boundaries, resource acquisition) are mostly one-time actions, this co-evolutionary approach regards the managenent of specificity as a rather ongoing process of actions and reactions. Furthermore, it shows that a high degree of specificity is a driver for market and non-market action in the case of expected or experienced uncertainty and change on the industry level. In this context specificity can enrich our understanding of the emergence and development of new industries especially in terms of why some firms engage more than others in influencing industry emerge and change.

Furthermore we conclude that the management of specificity increases competitiveness of firms as it aims at securing the deployment options for existing resources. Whereas existing

approaches drawing on Austrian economics and resource based reasoning consider a changing degree of specificity as a consequence of gaining new knowledge about resources by experimentation, we propose that this exclusive perspective on knowledge might be too narrow. Specificity is not only a result of knowledge about the different deployment options only, but rather it is also affected by the technical and legal feasibility to actually (re-)deploy those. This explains why firms not engage in market activities and thus begin searching for new deployment options only, but also try to influence the development of industries by applying non-market strategies.

Possible future research lies in broadening our perspective to changing firm boundaries, as specificity is the main variable explaining their choice in Transaction Cost Economics. However as this approach is static there is no change of firm boundaries due to a changing degree of specificity. Hence our dynamic perspective can shed light on explaining changing firm boundaries and thus varying degrees of vertical integration in the change of industry architectures (Jacobides, 2005).

Despite those contributions, our study of course underlies certain limitations. First this regards the choice of the industry as the health care sector is characterized by a high degree of regulation, which might emphasize regulatory changes more than in other industries. Considering the stage of industry development our results are based on new business models in an emerging industry. Thus the degree of uncertainty and the ambition to discover new deployment options for resources to achieve firm growth and diversification could also be different in mature industries.

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