The value of firm-addressable resources for European Airports

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Abstract

A major question in the development of mainports is which competencies will lead to sustainable competitive advantage. In this working paper this subject is addressed from a Resource-based perspective. The Resource-based View (RBV) is since the beginning of the 1990’s an influential framework for understanding strategic management (Barney, 1991, 2001; Dierickx & Cool, 1989, Peteraf, 1993; Mahoney & Pandian, 1992; Wernerfelt, 1984). Focal point of the RBV is the firm, in contrast to traditional Industrial Economics. The resource-based view of the firm sees the firm as a bundle of resources (Barney, 1991; Wernerfelt, 1984). These resources explain the (occurred) success of the firm. Barney (1991) states that advantage creating resources must meet four criteria: value, rareness, inimitability and non-substitutability. The value of a resource is determined in (one or more) dyadic relation(s) (Sanrema & Van de Rijt, 2002). Some organizations’ competences appear to be derived mainly from use of their own firm-specific resources, while the competences of other organizations seem to be derived largely from their ability to access and coordinate resources beyond their own organizational boundaries (Sanchez, 2004). These firm-addressable resources (or network resources) are resources, which a firm does not own or tightly control, but which it can arrange to access and use from time to time (Sanchez, Heene & Thomas; 1996).

Airports (as a subset of mainports) are examples of organizations in which firm-addressable resources are essential for success. An airport is a complicated business, where disparate elements and activities are brought together to facilitate, for both passenger and freight, the interchange between air and surface transport (Doganis, 1992). Park (2003) states that the competitive advantage of an airport seems to depend on five core factors: spatial factors, facility factors, demand factors, service factors and managerial factors. Harrison & Håkansson (2002) state that an airport can be considered as a collection of tightly and loosely coupled facility resources that are represented by and/or owned by one or several business units.

In this positioning paper an ongoing study on the value of firm-addressable resources is outlined. The research will be aimed at finding and explaining differences in performance between European airports, caused by different firm-addressable resources. The research methodology will involve case studies among different types of airports, such as hub-and-spokes, other international airports and regional airports.

Keywords: airports; strategy; resources;
Introduction

The evolution of the air transport industry has been responsible for redefining the strategic priorities of European airports (Freathy & O’Connell, 1999). Airports have been confronted with a turbulent environment. The success of low cost carriers has had an impact on the strategies of airports. Commercial revenues have become more relevant in comparison to aeronautical charges the last years. Van de Rijt & Santema are currently working on a study to explore what causes some airports to be more successful than others, using a resource-based and competence-based view. Focus in our study is the value of firm-addressable resources. The structure of this paper is as follows. In the first section we briefly describe the characteristics of airports. Next we zoom in on the concept of the Resource-based View and addressable resources. Then a description of ongoing empirical research is presented. We formulate a number of research questions. In the final section concluding remarks are.

Airports

An airport is a complicated business, where disparate elements and activities are brought together to facilitate, for both passenger and freight, the interchange between air and surface transport (Doganis, 1992). A mass of activities are being undertaken by a complementary and combined network of actors: passenger and cargo airlines, integrators, airport authorities, handling agents, in-flight catering firms, General Sales Agents, car rentals, air brokers, hardware providers like aircraft manufacturers and air terminal building firms, tour operators and travel agents (Jarach, 2001). In figure 1 the air transport pipeline (or network) is illustrated (Jarach, 2001).

![Transport Pipeline Diagram](image)

Notes.

- Business-to-business market relations.
- Business-to-consumer market relations at present.
- New possible forms of business-to-consumer relations by the airport authority.

Figure 1: the transport pipeline (Jarach, 2001).

Park (2003) states that the competitive advantage of an airport seems to depend on five core factors: spatial factors, facility factors, demand factors, service factors and managerial factors. Harrison & Hákansson (2002) state that an airport can be considered as a collection of tightly and loosely coupled facility resources that are represented by and/or owned by one or several business units.

The wide range of services and facilities at an airport are usually classified into airside operation and landside operation (Doganis, 1992). Airside operation refers to activities that facilitate the movement of aircraft including runway services, apron services, loading and unloading of baggage/freight hold.
Landside operation refers to activities associated directly with passengers and freight traffic, covering various stages of processing of passengers, baggage or freight through the respective terminals and onto the aircraft. It also includes commercial activities and facilities such as concessions, office rentals, and car parking (Oum et al, 2003). Primary and supporting activities for an airport are illustrated in figure 2 (Albers et al; 2004).

Figure 2: Primary and supporting activities for an airport ; Albers et al; 2004

Airports vary in terms of how these services and facilities are provided. Some airport operators provide most of the facilities and services themselves, while others rely on airlines, and third parties to provide many of the services. This makes the airport industry a good research object for testing the value of firm-addressable resources. We will come back to this.

The Resource-based View and value

In the early 1980s, the work of Porter (1980, 1985) focused attention on the role of industry in determining firm level profitability. Porter argued that some industries were more profitable than others due to their characteristics and that firms should select these “structurally attractive” industries or manipulate the forces driving competition in their favour through the selection of generic competitive strategies (Porter, 1980). However, research showed differences in performance between firms in the same industry and even firms in the same strategic group (Cool & Schendel, 1988; Wernerfelt & Montgomery, 1988; Rumelt, 1991). Building on the work of evolutionary economics and the work of Penrose (1959) the resource–based approach has re-established the importance of an individual firm, as opposed to an industry as the critical unit of analysis. The resource-based view of the firm sees the firm as a bundle of resources (Barney, 1991; Wernerfelt, 1984). These resources explain the (occurred) success of the firm. The RBV states that only some of these resources can lead to sustained competitive advantage. A key aspect here is that superior resources remain limited in supply. Barney (1991) proposes that advantage creating resources must meet four criteria: value, rareness, inimitability and non-substitutability.

There is a lot of literature on the concepts of rareness, inimitability and non-substitutability. Santema & Van de Rijt (2002; 2005 forthcoming) argue that there has been, in contrast, little resource-based literature on the concept of value. In industrial network theory the focus is on competitive advantage in a supply chain context: where supply chains compete instead of individual firms. Sethuraman et al (1988) define this advantage as "strategic benefits gained over competing dyads that enable the dyad
to compete more effectively in the marketplace”. This is not the traditional focus of RBV or competence-based literature, where the focus is on one specific firm, instead of on a dyad.

The lack of a dyadic perspective in resource-based theory explains the difficulty in the operationalization of the concept of “value” (Santema & Van de Rijt; 2002). They use the dyadic perspective from industrial network theory to help understand (from a monocentric perspective of the focal firm) the value of its resources.

Valuing resources implicates estimating what the value of the resource in the perspective of the purchasing organization (the customer) is. Anderson et al (1993) define value (from a customer perspective) as “the perceived worth in monetary units of the set of economic, technical, service and social benefits received by the customer firm in exchange for the price paid for a product offering, taking into consideration the available suppliers’ offerings and prices.” Peteraf & Bergen (2003), analogue to Levitt (1960), argue that it is not the resource type that matters but the resource functionality for the customer.

Santema & Van de Rijt (2002; 2005, forthcoming) use the Kraljic matrix (Kraljic, 1983) to indicate which resources are valued from a customer perspective (see figure 3). The value of the resource is determined by the value of the resource as perceived by the customer. Value of the resource of focal firm X is mirrored by the value of the resource for customer Y in its operation. For example, firms that sell routine products (in the eyes of the customers) should build resources that help the customer in making it easier to order. Resources should be aimed at smoothing the ordering process.

In each quadrant of the Kraljic matrix the customer values other resources (from its supplier). This means that firm X (the focal firm) should carefully select which resource-base to enhance.

![Kraljic Matrix Diagram](image)

**Figure 3:** winning resources” of a supplier (focal firm X) from a customer’s perspective, firm Y (Santema & Van de Rijt; 2005; adapted)

### Transforming resources

The strategic logic of focal firm Airport X (for which opportunities Airport X wants to create value; customer segment Y) defines (via the management processes) which set of resources the focal firm needs to acquire, access, configure and/or deploy (Sanchez, 2004). This is called the coordination flexibility of managers to identify, configure and deploy the chain of resources (competence mode III, Sanchez, 2004). Given the strategic logic of the firm, specific resource decisions have to be made. We thus take the value of a resource for the customer of the focal firm as a given and focus on the availability of the resources which are needed to realize the goals as defined in the strategic logic. Sanchez’s view is consistent with the view of Hansen et al. (2004) who, themselves in line with Penrose (1959), make a distinction between administrative resources and productive resources. A transformation of a firm’s productive resources must take place in order for services (products) to be generated. Administrative decisions are critical to this transformation. Administration refers to the role of the managers of the firm in determining how the resources of a firm are to be used. Hansen et al
conclude that a firm does with its resources is as important as which resources it possesses and thus that even homogeneously distributed productive resources can realize competitive advantage. Differences in services stem primarily from differences in administrative decisions concerning the productive resources. The administrative decisions can consist of redirecting or rebundling resources, adding new resources and discarding resources. The conclusions of Hansen et al. have implications for the concept of firm-addressable resources. The (administrative) management of these firm-resources can contribute to SCA. This is in line with Dyer and Singh (1998) who argue that firms who combine resources in unique ways may be able to outperform firms that are unable to do so.

Because of the focus on transforming resources into services, it has (from a customer's perspective) become irrelevant where the resources come from (firm-addressable for Airport X; to be addressed from supplier W or firm-specific for Airport X). What matters is that a unique service (stemming from better decision making, in directing, adding or discarding resources, by managers) for customer segment Y is realized by Airport X. For the use of this paper, we will not further address the concept of value of a resource from a customer's perspective. Instead, we focus the opposite dyadic relation (the relation between the focal Airport X and its supplier W); see figure 4. Again, this is not very common in RBV literature; where the dyadic relation is often overlooked and the focus only is on the focal firm (airport X).

Figure 4: simple network of Focal Airport X and a supplier W and passenger segment Y

In our research we focus on the role of firm-addressable resources in this discussion. We now first explore the concepts of firm-addressable resources in more detail.

**Firm-addressable resources**

The firm is characterized as an open system of assets stocks and flows (Dierickx & Cool, 1989; Sanchez & Heene, 1997). Sanchez & Heene (1996, 1997) propose an open system model of firms: the firm as a managed open system pursues a set of organizational strategic goals that collectively motivate the strategic actions of the firm by identifying, acquiring and using resources. Firms must constantly replenish their stocks of tangible and intangible assets through interactions with individuals, other firms, financial institutions, governments, communities and other providers of resources (Sanchez & Heene, 1997). The resources of a firm can reside both within the firm and outside the firm. Resources residing within the firm are called firm-specific resources. Resources outside the firm are called firm-addressable resources. These firm-addressable resources are resources, which a firm does not own or tightly control, but which it can arrange to access and use from time to time (Sanchez, Heene & Thomas; 1996). To result in competitive advantage these resources logically also must match Barney's criteria: they need to be valuable, rare, inimitable and non-substitutable and thus unique in use for the focal firm (in comparison with competitors of the focal firm). This thus results into a classification of resource types according to figure 5.
Sanchez (2004) states that some organizations’ competences appear to be derived mainly from use of their own firm-specific resources, while the competences of other organizations seem to be derived largely from their ability to access and coordinate resources beyond their own organizational boundaries.

There has been relatively little literature in competence-based theory on the concept of firm-addressable resources. Competence-based theory seems not to mind the “place” or origin of the resource: whether it resides within the firm or outside the firm (as long as the resource itself is valuable, rare, imitable and non-substitutable and thus gives the focal firm a competitive advantage).

Originally, the RBV focused (implicitly) on firm-specific resources: resources owned by the focal firm. Ramsey (2001) argues that purchasing cannot lead to sustained competitive advantage (SCA) because purchasing through open markets cannot lead to SCA. This may be partially true. Buying on open markets with equal access to these markets may not lead to SCA, although Barney (1986) reasons that some firms are better than others in recognizing sources of potential value in factor markets. We will come back to this.

Not all markets are accessible for all possible participants, and not all buyers of resources exploit them in the same way. Contracts make resources specific. In recent years there has been a good amount of literature on interorganizational relationships and its effects on sustained competitive advantage, which can be used in competence-based theory. Adding to the original programme of markets and hierarchies within the Transaction Cost Economics (Williamson, 1975) alternatives were created. In essence, supply chains represent a middle ground between markets and hierarchies. A supply chain is a network of actors that transform raw materials into distributed products (Handfield & Nichols, 2002). Some of the required functions may occur within one firm whereas others cross firm boundaries. The essential purpose for a supplier and customer firm engaging in a relationship is to work together in a way that creates value for them (Walter et al, 2001). Ritter et al (2004) argue that role and importance of relationships and networks in business in value creation and delivery is the subject of increasing attention in the marketing and business literature.

Interorganizational relationships may well lead to SCA. Gulati, Nohria & Zaheer (2000) state that an important source for the creation of imitable value-generating resources lies in a firm’s network of relationships. These resources are also called network resources. A firm’s networks allow it to access key non-imitable and non-substitutable resources from its environment, such as information, access, capital, goods, services etc. Gulati, Nohria & Zaheer (2000) state that a firm’s resources can be seen as imitable resources in itself and as a means by which to access others’ imitable resources and capabilities. Network resources thus can be considered a special subset of firm-addressable resources. In a similar way, Ritter & Gemünden (2003) refer to a company-specific ability to handle, use, and exploit interorganizational relationships as a “network competence”.

Figure 5: classification of resource types
Dyer & Singh (1998) as proponents of the relational view of strategy also recognize the ideas that a firm's critical resources may span firm boundaries and be embedded in interfirm resources and routines. Of course, the work of the Industrial Marketing and Purchasing (IMP) group (e.g. Håkansson & Snehota, 1982) is based on the notion of the value of relationships. Gadde, Huemer & Håkansson (2003) argue that a company's relationships are important resources in themselves and that a significant part of a company's total resource base is located beyond its ownership boundary and is controlled bilaterally with other firms. In deciding which actors are to be included within the key network, the focal firm must consider the ability of each actor to mobilise, access, and mix resources. To create a competitive advantage, the capabilities brought into and developed within the key network should not only be difficult for competitors to replicate but should also complement the existing capabilities of the network (Batt & Sharon; 2004).

**Ongoing empirical study: firm-addressable resources in the airport industry**

As stated earlier, an airport is a complicated business, where disparate elements and activities are brought together to facilitate, for both passenger and freight, the interchange between air and surface transport (Doganis, 1992). Airports thus transform a whole lot of productive resources into services, using administrative resources or decision making (Sanchez, 2004; Hansen et al (2004)). Airports seem a good industry to test the value of firm-addressable resources.

Firm-addressable resources are (by definition) permanently outsourced by the focal firm (in our case Airport X). There are 2 possible situations:

- The resource is willingly outsourced by airport X to supplier W
- The resource is due to other reasons not owned by airport X (outsourced by force; e.g. regulatory reasons) and has to be attracted from a third party (supplier W).

The first type (type A) of firm-addressable resources are typical make-or-buy decisions common in Transaction Cost Theory (Williamson, 1975). Examples in the airport industry are services such as cleaning or securing the airport. Also commercial activities may be wholly owned or outsourced (retail, catering, conference centres). Another example is the handling of the baggage: this may be outsourced, but can also be done by the airport itself. An airport can willingly outsource (or "insource") these resources or services.

Next to that, some resources of an airport delivering value for the end customer are not owned by the airport due to other reasons than a make-or-buy decision. A fine example of this (what we call) B-type of firm-addressable are landing slots. The number of landing slots are not controllable by the airport, yet are an important asset in terms of competitive advantage. Also, transportation services to and from the airport are examples of resources not owned by airports. Another example is the quantity and quality of airlines departing from an airport. Airlines are not owned by the airport, yet form a great part of the end service of the airport toward its other customers (passengers, other businesses that buy services from the airport). This in essence makes an airline both a customer of the airport, as well as a supplier. In general, a passenger looks for the most attractive airline connection and within geographical limits they have often the choice between several airports. As the available destinations are the main decision criteria for passengers, it is important for airport to attract airlines that offer attractive destinations to the passengers (Albers et al, 2004). Airports thus depend a lot on the presence of airlines, as the recent effect of the bankruptcy of Sabena for Brussels Airport has shown. Or a similar example: Schiphol as a hub airport is dependent on the presence and availability of a home carrier such as KLM. The effect on the alliance / merger of KLM with Air France may have important effects for Schiphol Airport: the competitive advantage of Schiphol as a hub might be
negatively effected by the fact that an important firm-addressable resource of Schiphol (the presence of KLM) will be addressed by a direct competitor: Airport Paris Charles de Gaulle (see Veldhuis, 2005 for a discussion on the impact of the Air France – KLM merger). All this makes the airport industry an excellent object of studying the value of firm-addressable resources.

Our research is aimed at finding and explaining differences in performance between European airports, caused by different firm-addressable resources. The research methodology involves case studies among different types of airports, such as hub-and-spokes, other international airports and regional airports. As the study is still in its conceptual stage, no results can be yet be presented. The aim of the study is to have the concept of firm-addressable resources empirically tested in a defined area.

We have formulated a number of research questions:
- Are firm-addressable resources of type A (willingly outsourced resources) valuable resources for an airport and can they lead to SCA?
- Are firm-addressable resources of type B (outsourced resources by force) valuable resources for an airport and can they lead to SCA??
- Is the presence of a home base carrier a valuable firm-addressable resource for an airport and can it lead to SCA?
- What is the relation in value between firm-addressable resources and firm-specific resources of an airport?
- What role plays competence mode III (the transformation of resources) in realizing SCA in the airport industry?

Summary and concluding remarks

The concept of firm-addressable resources gets relatively little attention in competence-based management literature, as the focus is primarily on one focal firm (and not on a dyad). Firm-addressable resources may be of important value for a firm. An empirical study of Van de Rijt & Santerna is currently being done to define the value of firm-addressable resources in the airport industry. The aim is on the one hand to explain competitive advantage of airports using firm-addressable resources, and on the other hand to get further insight in the importance and usability of the concept of firm-addressable resources. Empirical results of the study will, of course, follow in due time.

References


Doganis, R. (1992); The airport business; Routledge, London.


Freathy, P. & F. O’Conell (1999); Planning for profit: the commercialization of European airports; Long Range Planning; (32); nr 6; 587-597.


Harrison, D & H. Håkansson (2002); Activation in resource networks: a comparative study of ports; IMP Conference 2002 Proceedings


Park, Y. (2003); An analysis for the competitive strength of Asian major airports; *Journal of Air Transport Management* 9; 353–360


Ramsey, J. (2001); Purchasing’s strategic irrelevance; *European Journal of Purchasing & Supply Management*; 7 (4); 257-263


Santerna, S.C & J. Van de Rijt (2002); The valuation of resources: Looking through the eyes of the customer; *Conference Proceedings; Competence Based Management*; Lausanne; Switzerland
Santerna, S.C & J. Van de Rijt (2005 forthcoming ); The valuation of resources: Looking through the eyes of the customer; *Advances in Applied Business Strategy*; Volume 9; Competence Perspectives on Resources, Stakeholders, and Renewal

Veldhuis, J. (2005); Impacts of the Air France–KLM merger for airlines, airports and air transport users; *Journal of Air Transport Management*, Volume 11, Issue 1, p 9-18

