Abstract

Following the resource-based approach, a firm's competitive position is determined by its portfolio of resources which can be accumulated internally or acquired externally. This paper proposes that a considerate policy of cooperation shows a third way between internal accumulation and acquisition. It is thus a potentially forceful strategy to develop competencies. We will especially scrutinise the crucial role of IOS in linking and exchanging corporations' resources. For this end, a framework is developed which structures the complex relationship between cooperation and resources, and elaborates the IS impact on industrial organisation from a resource-based perspective. It is argued that the resource-based theory augments and partially complements transaction cost focused theorising.

1. Introduction

A corporation's competitive capabilities are grounded in the fit between its scope of capabilities and its opportunities. The resource-based paradigm of business strategy has focused on the distinguishable competencies of firms and their development and maintenance. The firm is seen as a portfolio of resources. The relationship between companies' resources and cooperative arrangements has drawn only minor attention and a rather negative evaluation so far. Namely outsourcing arrangements have been discussed critically. They are held responsible for the industrial decline and for the loss of control over critical assets [3]. However, we propose to augment the mainly transaction cost based analysis of interorganizational arrangements in terms of a resource-based analysis. We suggest that a considerate policy of cooperation can become a forceful strategy to develop competencies, and will discuss advantages and risks of using and developing resources in a cooperative setting. We will further show that a resource-based perspective has a considerable explanatory potential with respect to the choice of governance structures.
This paper therefore pursues two goals: *Firstly*, we try to expand the resource-based approach with respect to inter-organisational information systems (I(O)S). Defining the firm as a conglomerate of its core competencies and its strategic alliances is only a first step to explain the crucial role of IS in linking internal and external competencies to form a firm's asset base. A synoptic view of evaluating a company's resources and determining the resulting needs for building close relationships with other corporations is necessary in order to assess the full range of strategic implications. *Secondly*, we want to use the resource-based perspective to expand the discussion of IS impact on industrial organisation.

2. Resource-based Strategy

2.1. Resources and Competitive Advantage

The main proposition of the resource-based view holds that resources lie at the heart of a company's competitiveness. The firm is thus conceived as a portfolio of core competencies [15]. Resources provide the base for strategic choices; a corporation's competitive capabilities are grounded in the fit between its scope of capabilities and environment opportunities. The resource-based view sets out to explain "why firms are different" [23].

The resource-based view of the firm defines as strategic potentials of the firm their resources in the first place. Owning and controlling a bundle of resources is regarded as a more powerful source of competitiveness than current product-market positions. In accordance with this view, corporate strategy is seen as "the match an organisation makes between its internal resources and skills (...) and the risks created by its external environment" [17].

2.2. The Resource Concept

The resource-based view extends the resource concept beyond its traditional limits: "a resource is (...) anything which could be thought of a strength or weakness of a given firm. More formally, a firm's resources at a given time could be defined as those (tangible and intangible) assets which are tied semi permanently to the firm" [4]. It follows that resources are a wide bundle of assets, comprising such traditional tangible resources as machinery, capital goods, and staff, but also intangible assets such as know-how, efficient procedures and other tacit knowledge [43; 19], or relationships with customers or suppliers, but also capabilities, competencies and other intangible assets (some authors regard capabilities as aggregated resources, cf. [14], others focus the term "competence" to discuss a resource-oriented view; we consider capabilities and competencies as specific kinds of resources).

Following the extended resource concept, resources are of varying degrees of complexity: In contrast to *basic or generic resources* which can be contracted from outside without further modification, complex resources are aggregated or modified resources. By making the modification process intransparent, companies try to protect their resources from imitation. The more specific the use of a resource, the higher is its
potential competitive advantage. Complex resources are not just the result of a combination of different resources; moreover, they are the result of complex patterns of coordination between human agents and resources. These coordination patterns are also called "organizational routines" [14] or "social scripts" [5]. A firm can be interpreted as a network of organisational routines, which are accumulated and developed in processes of organisational learning.

Whether a resource grants competitive advantage to a firm depends on the resource's attributes. The three most critical resource attributes are tradability, substitutability, and imitability [12; 24]. The lower these attributes are, the more specific - and hence valuable - is the resource to the company. The imitability of a resource depends on how much time and financial resources a competitor would need to duplicate a comparable resource base. Imitability is not only closely intertwined with characteristics of the resource itself, but also of the process in which this resource is build.

How can a firm modify resource characteristics in order to make them difficult to imitate, even if they are available on the market at the first place? The concept of resource specificity holds that resources are modified by being used, combined, interconnected and coined by the firm which owns them. Generic resources (labour e.g.) are acquired on the market, specific resources such as know-how, visions etc. are accumulated in a firm. Williamson points out that the idiosyncratic nature of firm-specific resources forbids their marketability. Therefore, non-marketable resources are accumulated internally; "inputs that cannot be purchased, such as learning-by-doing and organisational culture, are, on average, likely to be more specific to the firm than purchasable inputs and hence have the potential to be the more significant rent-generators. This view is consistent with the large amount of attention that intangible assets have received in the resource-based literature." [42]. A company should aim to identify those resources for which durable resource-position barriers can be build, which are owned by no other firm, and which can be acquired or created by few competitors only.

2.3. IT as a Resource

Because of the high degree of standardisation, IT by itself is not a specific resource. However, through processes of strategic and organisational alignment it is possible to turn IT into a core part of a complex resource. Empirical evidence suggests that the benefits from EDI depend on the level of integration with internal business processes, combined with the level of integration in core business activities [10].

In an increasing number of companies, the use of IT is the key to free employees from tedious details of daily operations and enables them to focus on the creative parts of their work and the customers' needs: "Many of FedEx's technological features can be duplicated by others. But it is FedEx's uncommon attention to people and motivation that gives the company much of its uniqueness." [32]. Moreover, IT enables new, flat and fluid organisational forms that are a prerequisite for fostering decentralised learning and innovations while maintaining cohesion and focus.

Technology leverage combined with information leverage can be utilised as a critical asset [21]. AMR is collecting and analysing all available CRS information to provide its customers with detailed analyses of customer groups, travel patterns, and performance of travel agents [37]. Thus, they are creating a value added and a complex
product based on raw data. While the technology itself can easily be duplicated, the information acquired, e.g. about customers, and the quality of the services based on a careful use of technology cannot.

These examples show how IT plays a double role, being a resource itself and a vehicle to access other resources at the same time. The fact that an IS contains a firm's solution to specific problems makes IS a valuable resource; by sharing the application of the IS, a partner can share another firm's problem solution, which is also a form of resources.

2.4. The Development of Resources

While considerable attention has been paid to identifying and defending corporate resources (isolating mechanisms), more emphasis has to be put on the processes of resource building, i.e. the conceptualisation of the firm as a continuously learning organisation. Four crucial characteristics mark the resource-building process and explain early mover advantages:

*Time compression diseconomies*

Building resources takes time. Patterns for evolving know-how, learning, training etc. are time-sensitive. This phenomenon "makes it more difficult for a newcomer to catch up by simply 'throwing money' at acquiring or developing the input" [9]. Time Compression Diseconomies explain convincingly the well-known advantages of early entry and are the rationale of first-mover and fast-second strategies (cf. [6]).

*Asset mass efficiencies*

The stronger a resource's scale economies, the more difficult it is to catch up from a low stock position. This disadvantage is even stronger when the resource accumulation process is characterised by a steep learning curve and discontinuities.

*Resource interdependency*

The resource accumulation process is not only dependent on the stock of the resource in question, but also on the stock of other, complementary resources. Many resources can be used only in combination with other resources. The complexity of customised insurance contracts, e.g., can only be handled by a qualified sales force that is supported by on-line access to central data. The degree of resource interdependency determines the resources' specificity and therefore their imitability. It also underlines the severity of bottleneck problems.

A good example how to balance the resources of market research, technological development and customer service is shown by Dai-ichi, the only department store earning money in Tokyo's Akihabara [38].

*The impact of innovations*

Technological innovations affect traditional sources of business competencies: they can either enhance, destroy, or make new sources of business competencies available [39; 40]. So the former dimensions of resource development have to be seen within the
context of possible technological discontinuities. The rising pressure on intermediaries shows the competence-destroying features of IT [37], on the other hand, new options for information services and communication intermediaries become visible.

3. **Resource-Building in an Inter-organisational Setting**

The concept of cooperation seems to contradict the resource-based approach at least partially. Cooperations are based on the sharing and exchange of resources while the resource-based approach teaches companies to isolate their resources. The recent discussion about the negative effects of outsourcing up to the 'hollowing of corporations' and the decline of many Western firms [3] appears to confirm this contradiction. However, the arguments of the critics of outsourcing have to be read carefully; they warn against a single-minded focus on scale economics and market share, combined with a negligence of crucial resources.

We want to show, to the contrary, how a considerate policy of cooperation (including outsourcing partnerships) can become a forceful strategy to develop competencies. Moreover, many cooperative arrangements are initiated in order to augment the corporation's competencies and to get access to the partners' resources. IOS facilitate processes of resource sharing and joint resource development through dense communication links, the sharing of data or the pooling of bargaining power.

"... alliances are harnessed to reduce the gap between the corporation's competence and the complexity of the environment, through:

a. An outbound manoeuvre: controlling the complexity of the environment
b. An inbound manoeuvre: augmenting the organizational capabilities. ..." [4]

3.1. **The Functions of Resources in Cooperative Arrangements**

Different aspects and different kinds of resources provide explanations for the emergence of cooperative interorganizational arrangements. In their review of approaches explaining the development of networks, Grandori and Soda [13] summarise a number of resource-related variables that have been studied as predictors of the emergence of interorganizational coordination: complementarity or asymmetry of resources controlled by different firms, resource dependence [28], resource pooling and resource-transferring.

*The resource position in relation to potential partners*

Firstly, resources are not only strategic assets to gain competitive advantage but also assets to win needed cooperation partners. In other words, resources determine the attractiveness of a company as a cooperation partner. These may be technological competencies or know-how, but also a loyal customer base or a good reputation within the industry. Secondly, given the voids of power bases within cooperative arrangements [1], competencies become a substitute power base within a cooperation [30]. As asymmetries in learning patterns and speed affect the relative bargaining power among partners, the cooperation can be viewed as a race to learn [15].
Cooperation and the extension of the resource base

In a situation where even the largest players have to resort to external resources, different forms of cooperative arrangements are initiated in order to gain access to external resources, to internalise partner skills, and to augment organisational competencies [4]. Cooperation seems to be a favourable strategy to improve a firm's resource base. Reve has suggested to view the firm as a function of core competencies and strategic alliances [34]. The strategic rationale of the virtual corporation is essentially based on the idea of enlarging the participants' resource base, e.g. global support and local competence in the case of the Rosenbluth International Alliance (RIA) [8].

In this situation a distinction has to be made between those resources that remain company-specific and will remain under strict proprietary control, most likely because of the defection risk within the cooperation, and those that are cooperation-specific and will be used to gain competitive advantage in comparison to other players, be it individual companies or networks of competitors. In the case of EUROSELECT [22], the initiator of a cooperative procurement network kept his know-how about product classification proprietary; he shared, however, the procurement information.

Several forms of using resources cooperatively can be distinguished [26]: the most important are sharing - giving access to one's own internal resource base in order to build products or services that cannot be furnished alone - or pooling - gaining scale economies or network externalities through coordinated operations.

Resource building in a cooperative environment

A particular advantage of cooperations is that they can provide a supportive environment for resource building. Cooperation provides a platform for "... collectively leveraging each others' strengths" [21]. Anecdotal evidence of development cooperation suggests that the combination of collaborative pooling of resources with the challenges of competition among the partners ('encapsulated competition' [12]) often yields the best results. Internal resources and competencies become dynamised and at the same time augmented [15] has studied preconditions for inter-partner learning, which is at the core of cooperative resource building: intent, transparency, and receptivity.

3.2. The Impact of Cooperation on the Development of Resources

If we apply the four mentioned dimensions of resource building within companies to the realm of cooperative arrangements, chances as well as risks of collaborative resource development and utilisation become apparent and highlight the challenges for resource management.
<table>
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<tr>
<th>dimensions of resource development</th>
<th>impact of the cooperation</th>
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<td></td>
<td>positive</td>
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<tr>
<td>time compression diseconomies</td>
<td>faster development of technological resources by pooling of know-how, experiences in the implementation process of a cooperation combined with the dynamics of the cooperation may yield a significant lead</td>
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<tr>
<td>asset mass specificity</td>
<td>combined resource development will considerably accelerate the resource accumulation process</td>
</tr>
<tr>
<td>resource interdependency</td>
<td>the pooling of complementary resources of different partners creates a highly unique resource position that lowers the imitation risk from outside competitors considerably</td>
</tr>
<tr>
<td>resource creating, enhancing, destroying</td>
<td>cooperation as an instrument to create or enhance existing resources; collaborative learning as an instrument to leverage not only the mutual strengths but also to significantly improve the companies resource position through a process of accelerated learning</td>
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Table 1: The impact of cooperation on the resource development process.

As will be shown below, a further distinction of different types of resources is mandatory in order to balance the risks of losing control over resources or slowing down the own resource development process and risks of foregoing learning opportunities, external ideas and challenges.

Cooperations are both cause and effect of a knowledge-intensive competition. Cooperations help corporations to learn from each other which in return speeds up the spreading of knowledge. New entrants build cooperations in order to enter new markets fast and effectively, i.e. to lower their entry barriers. Established players are forced to respond, using external know-how also.

3.3. The Role of IOS in Resource Development

We have depicted the strategic rationale for cooperative resource development and argued that the relative resource position of a company is - in addition to transaction cost reasoning - an important argument for the initiation of cooperative arrangements.

The mentioned examples show that IOS are a core element in inter-organisational arrangements. IOS are facilitators for cooperations; they serve as a bridge to access the partner's resources and utilise them. IOS are a crucial element in building knowledge within cooperative arrangements. Firstly, they contain embedded knowledge (problem solutions) which is shareable by allowing the system's usage to cooperation partners. Secondly, they are the linking pin between two firms' resources and allow to form a "virtual resource base". IOS accelerate the exchange of resources such as marketing
information and provide a platform for resource sharing and pooling. From this point of view, IOS serve as a "highway" for electronic integration and innovative behaviour.

In relation to the dimensions of resource development (see table 1), IOS can enhance the positive effects of joint resource development. Close communication links, exchange of data and the pooling of information improve the efficiency and pace of resource building. But these very advantages can at the same time pose considerable risks in terms of loss of critical resources. Managing resources in a cooperative context is a balancing act between sharing and protecting. Rules of reciprocity and trust building mechanisms like credible commitments provide the base for collaborative resource development. That suggests that it is rather the organisational framework, contractual arrangements and trust that determine the level of risk than the technology per se. However, the use of IOS in terms of intense communication and monitoring facilities can become part of the trust building process.

4. Coordination Patterns for Resource-Building

From a strategic vantage point, a more detailed scrutiny is required in order to distinguish different modes of resource use and development. Within the context of the ongoing discussion about the impact of IT on industrial organisation, we will argue that the resource-based theory augments and partially complements transaction cost focused theorising and comprehends a strategic rationale for the choice and configuration of governance forms as well as the design of IOS.

4.1. Resources and Governance Decisions - An Extended Coordination Framework

Holland and Lockett have proposed a framework for the research of IT impact on governance forms that emphasises the strategic rationale as an explanatory variable in contrast to a more deterministic view of contingencies like market structure and transaction attributes that explain the impact of IOS on industrial organisation. Instead of a decision for one or another form, they argue for a combination of different governance structures - 'mixed mode' governance - in order to offset the risks of either market or hierarchical coordination [18]. Their research framework combines four interrelated theoretical constructs from current literature: governance structure, asset specificity, market complexity and coordination strategy, which is taken as the focal point of the framework. We suggest to extend this framework and include resources as fifth element (see figure 1).

Coordination strategy encompasses the configuration of inter-organisational relations and the design of IOS as a facilitator of organisational arrangements. Like any other strategy, coordination strategy has to take restrictions and contingencies into account. At the same time strategy is not only re-active and adaptive but also actively shaping its own environment, i.e. the (potential) impact of strategy has to be considered. The arrows indicate contingencies and impact of coordination strategy.
The following relationships will be scrutinised:

1. the relationship of resources and cooperation strategy: we will show how certain characteristics of resources explain the emergence of interorganizational arrangements.

2. the relationship between cooperation and resources: we will show that cooperation is a favourable strategy to develop a firm's resource base.

3. the relationship between characteristics of resources and governance structure: the relation between different resources and the governance structure, transaction attributes, namely transaction risks as well as the coordination strategy will be discussed further below.

Some of the proponents of the resource-based strategy try to distance themselves from the industrial organization arguments that are used for example by Porter. However, a closer look at the resource-based reasoning reveals that it has to be closely linked to market and industry attributes. Core competencies are - at least in a medium-range perspective - a prerequisite to build and defend market positions. Market attributes like volatility and frequency of innovations, on the other hand, have a significant impact on a firm's relative resource position. Ciborra argues convincingly that "... coalitions will be more frequent during periods of rapid and significant structural change in an industry." [4]

4.2. Resource Management in a Cooperative Setting

The ongoing structural changes within the global economy can be interpreted as a shift towards value-adding based on knowledge-based intangibles like technological improvements, styling, quality, marketing, timing, and financing contributions of service activities [33]. The globalization of knowledge is therefore the main reason for the increasing number of cooperations and changes of the boundaries of the firm.

Management of intangible resources

The most significant challenge of resource management lies in the capacity to coordinate the use of resources within a huge network of inter-organisational relations without losing core assets to competitors. Much attention has therefore been paid to
these risks which contribute to the costs of cooperating. In order to make the risk of losing knowledge assets more tangible, Badaracco [1] has distinguished migratory and embedded knowledge:

**Migratory knowledge**

Migratory knowledge can be easily separated from the firm and the processes it is derived from. The knowledge necessary to produce a simple moulded plastic toy, for example, can easily be transferred by passing a set of data for a CNC machine. Production licensing has been a common way of the selective proliferation of isolated migratory knowledge.

"It can move very quickly and easily because it is encapsulated in formulas, designs, manuals, or books, or in pieces of machinery. If an individual or organization with the appropriate capabilities gets the formula, the book, the manual, or the machine, they can get the knowledge. (Reverse engineering is, in essence, the extraction of knowledge from a product)" [1].

**Embedded knowledge**

Embedded knowledge exists in the firm as implicit information, it is encapsulated in organisational routines and the culture of a firm. It might come as complex rules, capabilities and solutions. This knowledge is a complex resource and the result of a combination of different resources. It is thus difficult to explicate - even for experts.

"The reason is that embedded knowledge resides in relationships, usually complex social relationships. A team, a department, or a company sometimes "know" things that none of its individual members know, and some of its knowledge cannot be fully articulated." [1]

Cooperative arrangements, so called 'knowledge links', have the potential to make even embedded knowledge accessible. From the point of view of a resource owner, sharing of complex, embedded resources is less risky; it is possible without the imminent danger of losing the control over one's resources.

"Knowledge links are defined by the learning and creation of knowledge. Many of these alliances reflect the special character of embedded knowledge: it is sticky - it moves only slowly and awkwardly among organizations. For one organization to acquire knowledge embedded in the routine of another, it must form a complex, intimate relationship with it." [1]

In addition, the concept of embeddedness can also be applied to the competencies within an interorganizational cooperation: the interorganizational arrangements, the procedures and rituals of cooperation themselves become a crucial source for the competence development process and are difficult to imitate. The participants, however, have to take the cooperation perspective as those resources are only viable within the cooperation.

4.3. **The Impact of Resources on the Choice of Governance Structures**

If we pursue Badaracco's argument a little further, different governance forms can be associated with different types of resources:
(1) **Core resources**

For 'best in the world' capabilities that are crucial for the identity of the company and that can be developed and maintained alone, a hierarchical governance structure guarantees strategic control in order to maintain dominance, and it provides the best protection against loss to competitors [33].

(2) **Pooled resources**

If resources are a crucial part of services or products but a leading position cannot be achieved or maintained alone, cooperative arrangements can be initiated that provide the requisite leverage. The advantages of this type of arrangement in terms of resource building etc. have been argued above. The management challenge lies in the selection of partners and the definition of the boundaries of the network. As the network is a fluid arrangement, measures have to be taken to cope with the risk of defection. However, embedded resources provide the best protection against the loss of control.

(3) **Shared or licensed resources**

If a division within a company has a leading competence position in the market but needs additional, external customers in order to achieve requisite scale economies, a 'make and sell' strategy can provide the required leverage. SWISSAIR for example is selling some of their IT applications to other, competing airlines and is even offering part of their IT services to non-industry clients like hospitals. The rationale is that SWISSAIR has a sufficient technological lead, so that by the time the competitors have acquired and extracted the knowledge, SWISSAIR will have a new, more advanced release available. In this case, the knowledge is migratory in principle but the speed of diffusion is sufficiently low. On the other hand, selling to external customers not only ensures the required scale of activities but also puts additional competitive pressure on the division. The contact with external customers from different industries provides the employees with enhanced learning opportunities and thus serves as a resource-building stimulus.

DANZAS, a leading freight forwarder, has licensed their EDI software package to the Swiss forwarder organisation, in order to achieve a swift market penetration and to discourage competitors to develop their own packages. With a similar rationale, SUN Microsystems has licensed the SPARCTM processor in order to convince a critical mass of software developers to develop applications for this type of processor [16].

Within RIA, Rosenbluth Travel combines the use of shared and pooled resources. While their proprietary applications with all its embedded knowledge are shared, customer data and local services are pooled. The Interbank On-line System (IBOS) of the Spanish Banco de Santander and the Royal Bank of Scotland combines in a similar way the shared use of an IS with a pooled customer base and coordinated services. Disparate banks can offer common products and services to customers world-wide. The system enables customers to make real-time cross-border transactions between accounts of the participating banks [20].
(4) **Outsourcing partnership**

In those areas of competence that do not fall into the core business and where external suppliers hold a leading position, outsourcing partnerships provide the opportunity to get access to high quality goods or services. However, careful planning and monitoring is a prerequisite to avoid excessive dependence or even dominance by partner. Clemons and Reddi [7] have argued how advanced use of IT makes this a beneficially interorganizational arrangement.

<table>
<thead>
<tr>
<th>governance structure</th>
<th>1 core resources</th>
<th>2 pooled resources</th>
<th>3 shared or licensed resources</th>
<th>4 outsourceable resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>hierarchy</td>
<td>cooperation</td>
<td>service provider (cooperative or market relationship)</td>
<td>outsourcing partnership (cooperative or market relationship)</td>
<td></td>
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<tr>
<td>status of resource</td>
<td>crucial for the identity of the company</td>
<td>crucial part of services or products that cannot be achieved alone</td>
<td>internal services that are offered externally, even to competitors, sufficient lead time</td>
<td>areas that do not fall into the core business and where external suppliers hold a leading position</td>
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<tr>
<td>assessment and reasoning</td>
<td>'best in the world' capabilities can be developed and maintained alone</td>
<td>the company alone cannot become the 'best in the world' alone, but within the limits of a virtual corporation</td>
<td>requisite scale cannot be achieved internally, competitive pressure utilized to improve quality of service</td>
<td>careful planning is a prerequisite to avoid excessive dependence or even dominance of partner</td>
</tr>
<tr>
<td>examples</td>
<td>EUROSELECT, RIA, IBOS</td>
<td>SWISSAIR, DANZAS, SUN</td>
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Table 2: Different type of resources and related arrangements

As the examples to (3) have shown, the **mixed-mode hypothesis** [18] can be extended to explain the combination of different governance structures within a cooperative relationship. While some resources are kept proprietary, others are pooled, shared or even outsourced. The result is a complex resource portfolio within (different) networks of inter-organisational relations, in most cases facilitated by the use of IOS.

5. **Conclusions**

From a theoretical point of view this paper argues for an expansion of the resource-based strategising beyond the boundaries of the firm. Increasingly, corporations will have to develop competencies cooperatively in order to meet the challenges of an intensifying knowledge competition and distributed operations.

This paper establishes a conceptual link between the resource-based strategy concept and industrial organization: different governance options for resource development and deployment have been discussed. However the resource concept is a qualitative and
dynamic concept. Resources are difficult to measure, they are relative to customer requirements and competitors competencies.

Applied to IS, the resource based approach emphasises that the crucial point is not to have an IS, but to use it as a capability, to built competences around it and on it, in order to achieve competences that could not be achieved otherwise.

By the same token, IOS can be viewed as a critical resource to facilitate inter-partner resource development and deployment on the one hand side and to facilitate the cooperative arrangement (information exchange, efficient organisational routines) that is the very fundamend for joint resource development. I.e. the explanation of the impact of IOS on industrial organisation has to be expanded beyond transaction cost theorising and has to comprehend resource-based strategy rationale.

The proposed framework depicts options for resource development and usage in different governance settings. It falls however short of specifying how the risk of losing control over critical resources on the one hand and the risk of missing learning opportunities in a cooperative setting on the other hand can be adequately balanced.

References


