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Abstract

Peppard and Ward (2004) have instigated the development of the concept of IS capability based on Resource-based Theory (RBT). The goal of this paper is to add scrutiny to their initiative by drawing on the complementarities between RBT and Industrial Economics, and by focusing explicitly on the mechanisms around information that lead to IS-based rents. We introduce an IS rent framework with IS rent as dependent variable for IS capability and four corresponding propositions on the decision-making around how firms address IS rent opportunities. This framework allows us to test whether firms with a presumed IS capability actually display IS rent-seeking behaviour.

Keywords: IS capability; IS rent; Information imperfections; Resource-based theory; Industrial Economics

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Relating IS capability to IS rent: Towards understanding the underlying mechanisms

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ABSTRACT

Peppard and Ward (2004) have instigated the development of the concept of IS capability based on Resource-based Theory (RBT). The goal of this paper is to add scrutiny to their initiative by drawing on the complementarities between RBT and Industrial Economics, and by focusing explicitly on the mechanisms around information that lead to IS-based rents. We introduce an IS rent framework with IS rent as dependent variable for IS capability and four corresponding propositions on the decision-making around how firms address IS rent opportunities. This framework allows us to test whether firms with a presumed IS capability actually display IS rent-seeking behaviour.

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1. Introduction

In a special issue of this journal (Jatinder *et al.*, 2004), Peppard and Ward (2004) herald the arrival of a new era beyond identifying 'strategic systems'. In this era of IS capability, it is required to "understand the mechanisms and processes that lead to the situation where an organization repeatedly and continually realizes outcomes producing advantage in the marketplace, through the deployment of IS/IT" (p.171). They posit that an IS capability essentially represents "the organizations (sic) ability to connect technology to business performance" (p.173) and argue that organizations must focus less on IT per se, and more on the process of organizing and managing information, systems and technology within the firm. Consequently, they elaborate on the concept of IS capability, since they conclude that "to date, the IS literature has not articulated the exact nature of this capability" (p.173). Drawing on Resource-based theory (RBT), the authors list the core components (i.e. 26 IS competencies) and identify three inter-related attributes of an IS capability: a fusion of business knowledge with IS knowledge, a flexible re-usable IT platform, and an effective use process.

We agree with Peppard and Ward (2004) with regard to the signalled new era and the importance of defining the competencies that constitute an IS capability and of describing the mechanisms relating this IS capability to organizational performance, or rather IS related rent¹. Nevertheless, their contribution does not come round to addressing these underlying mechanisms. Furthermore, we appreciate their approach for taking RBT as a relevant theoretical footing since RBT "offers a perspective distinct from the traditional Industrial Economics (IE) viewpoint that has dominated the field for the last 50 years" (p.173). However, we argue that eventually the two complementary theories need to be combined (Rivard *et al.*, 2006; Spanos and Lioukas, 2001; Wernerfelt, 1984) in order to come to an elaborate understanding of the mechanisms that explain how an IS capability leads to IS rent. Finally, we welcome Peppard and Ward's recognition of the importance of "collecting, organising and maintaining information, and getting people to embrace the right behaviours and values for working with information" (Marchand *et al.*, 2000, p.70), in addition to systems and technology as sources of sustained competitive advantage. Notwithstanding Peppard and Ward's contribution, we agree that there is still much to learn with regard to how IS capability will provide a real source of value, specifically how *information* can become an essential part of a firm's competitive power.

¹ We adhere to the more precise economic terminology of rent instead of competitive advantage (see also Wade and Hulland, 2004). Rents are "returns in excess of a resource owner's opportunity costs, which is defined as the revenue that a resource (bundle) can generate when put to an alternative use in the firm or the price which it can be sold for" (Grant, 1991).

In this paper we focus on the underlying mechanisms that relate IS capability, as independent variable, to achieving IS rent, as dependent variable, by drawing on the complementarities between RBT and IE as the dominant economics-based theories that recognize the strategic potential of information and have enlightened our understanding of IS and competitive strategy in a complementary fashion (e.g. Clemons et al., 2004). More precisely, we draw on RBT by analyzing factor market imperfections that allow firms to create and sustain IS rents, and IE by also including product markets in the analysis and taking into account the market structure as a determinant of competitive position and rent potential. On these notes, we introduce an IS rent framework and four corresponding IS rent propositions in order to characterize a firm's IS rent-seeking behaviour as a set of IS rent mechanisms that consist of fundamental decisions on achieving IS rent, taking into account the firm's idiosyncrasies and specific market context that cause IS rent opportunities. This allows us to map a firm's IS rent-seeking behaviour onto this framework in a case study. Finally, we discuss the IS rent framework's relevance in terms of its contribution to furthering the new era of IS capability.

2. IS rent framework

Our IS rent framework starts from an economics-based notion of strategy. In particular, we draw on the complementarities with regard to rent source, perspective and domain of strategy between RBT and IE (see Table 1), as the two economics-based theories that have dominated the advance of our theoretical understanding of business strategy (Hoskisson et al., 1999; Rumelt et al., 1991; Spanos and Lioukas, 2001). Combining both theories implies taking a non-exclusive focus on the presumed drivers of rent.

Table 1 RBT and IE complementarities as a theoretical basis

	Resource-based theory (RBT)	Industrial Economics (IE)
Rent source	Market imperfections provide opportunities to realize efficiency-type (Penrosian, Ricardian) rents (Spanos and Lioukas, 2001)	Market structure is the main determinant of a firm's relative competitive position and corresponding (monopoly) rents (Spanos and Lioukas, 2001)
Perspective	Strategy is a continuous search for rents (Grant, 1991; Mahoney, 1995; Mahoney and Pandian, 1992) consisting of seeing rent opportunities, and being willing and able to act upon them (Penrose, 1959, p.38)	Strategy is impeding the market forces that annihilate rents (defensive effects) or influencing them in one's favour (offensive effects) (Spanos and Lioukas, 2001)
Domain of strategy	Rent opportunities derive from market imperfections in (strategic) factor markets (Barney, 1986)	Rent opportunities derive from favourable circumstances of market forces in product markets (Porter, 1985)

This dual theoretical basis leads us to the following definition of IS capability and the theoretical framework depicted in Figure 1. IS capability is defined as the ability to continuously search for sustainable IS rent by exploring, identifying and deciding whether and how to exploit IS rent opportunities in the factor and product markets that are relevant for implementing a firm's business strategy. Several elements of this definition need further explication, foremost IS rent as a new rent type and the corresponding IS rent opportunities, and the nature of IS rent-seeking behaviour.

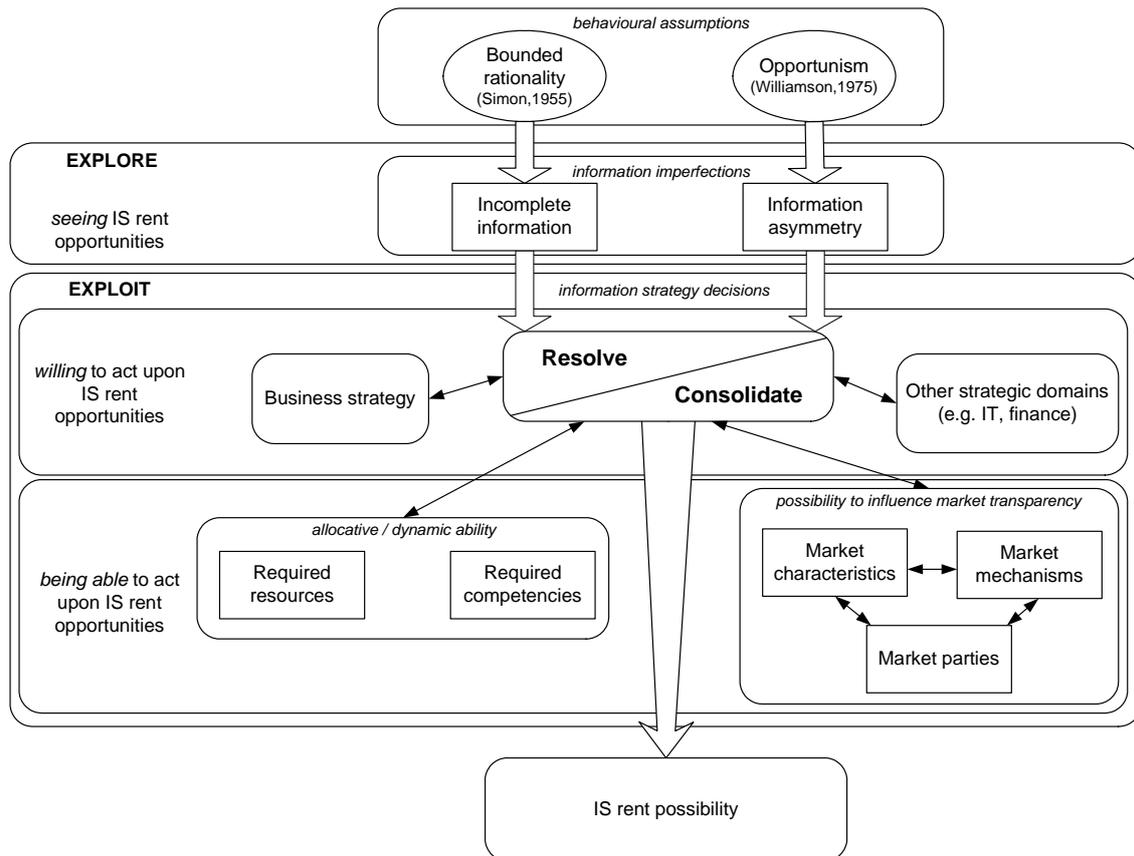


Figure 1 IS rent framework

At present, a rent type that focuses on and explains information-based performance differentials has not been pinpointed, let alone defined². We propound that a firm will earn IS rent when it is less imperfectly informed relative to other market parties and is able to implement a strategy that renders these differences so that it positively affects its ability to maximize the economic value of its productive services. Our notion of IS rent thus accentuates imperfect information in markets as a precondition for opportunities to earn this type of rent. Firms can encounter IS rent opportunities in any market, regardless whether they are (strategic) factor (Barney, 1986) or product markets, B2B or B2C markets (see ‘domain of strategy’ in Table 1). Analogous to Yao (1988), we analyse the profit potential of markets by examining the effect of violating one of the efficient market conditions that theoretically preclude firms to earn rents in the long run. Consequently, for an IS rent opportunity to exist, price must not be a ‘sufficient statistic’ (Hayek, 1945) and information imperfections must be present in markets.

² In the economic literature, the concept of ‘information rents’ has been narrowly applied to the analysis of incentive contracts and principal-agent relationships (Aoki et al., 1990; Esö and Szentes, 2003). Even though the general notion of the terms coincides with the meaning in this stream of literature, we adhere to the term IS rent in order to consciously differentiate from this narrow notion and focus on any situation including the principal-agent setting in which information yields rents.

We define information imperfections as the instances in which firms do *not* have complete and perfect information about all relevant aspects of market transactions and production, exchange and distribution activities, including market opportunities, available technology, costs of production under alternative production arrangements, the quality of goods produced and, critically, the intentions of other market parties; and any new information is *not* instantly disseminated to all market parties at no cost. Based on the behavioural assumptions that RBT and IE have in common³, we distinguish between two interrelated types of information imperfections: incomplete information and information asymmetry. With regard to the former, bounded rationality (Simon, 1955) explains humans' limited rational information behaviour, known as *satisficing*⁴: searching for a solution that meets the decision-maker's aspiration levels which is therefore acceptable. "Instead of a complete search for all relevant information, the decision-maker only tries to attain a subjectively satisfying, yet *incomplete level of information*" (Wigand et al., 1997, p.75, emphasis added). The behavioural assumption of bounded rationality can thus account for the occurrence of incomplete information in the decision-making of firms. The second type of information imperfection –information asymmetry– is linked to opportunism (Williamson, 1975), defined as "self-interest seeking with guile involving self-disbelieved threats and promises in order to realize individual advantages, which includes lying, stealing and cheating, but more often less blatant forms of deceit. More generally, opportunism refers to the *incomplete or distorted disclosure of information*, especially calculated efforts to mislead, distort, disguise, obfuscate, or otherwise confuse" (Williamson, 1985, p.47, emphasis added). Information imperfections therefore occur even when parties have identical information and, a fortiori, if information differences exist. However, it is not until the information difference is coupled with (a) the high costs of achieving information parity and (b) the proclivity of parties to behave opportunistically that an information asymmetry⁵ subsists. The two types of information imperfections are interrelated since incomplete information is a necessary condition for informational asymmetry between firms. In their search for IS rents, firms decide whether and how to address these instances of incomplete information and information asymmetry to their economic advantage.

³ IE differs from RBT in its assumption on the *type* of bounds on rationality (Conner, 1991), but both perspectives are based on limited rationality (Simon, 1955).

⁴ Besides Simon's interpretation of satisficing, other interpretations exist (Seth and Thomas, 1994). Nelson and Winter, for instance, distinguish between a limited information model, in which there is uncertainty about knowing which state of the world is true and a model in which decision-makers have limited cognitive abilities which preclude knowledge of which states are possible (Nelson and Winter, 1982, p.174).

⁵ Williamson (1975, p.31) designates this condition as information impactedness; we adhere to the widespread concept of information asymmetry.

In defining what IS rent-seeking behaviour encompasses, we draw on Penrose's (1959, p.31) tripartite *seeing, willing* and *being able* perspective on strategic decision-making, which refines the common divide in the strategy literature between *exploration* and *exploitation* (Knott, 2002; Williams, 1994). IS rent-seeking involves exploring, identifying and deciding whether and how to exploit instances of incomplete information and information asymmetry in the factor and product markets that are relevant for implementing a firm's business strategy, including offensive and defensive effects (see 'perspective' in Table 1). Increasingly, exploration for new competencies for survival in dynamic environments and exploitation of existing capabilities for success in competitive environments are seen as necessary complements for developing strategies (e.g. Zack, 1999). Analogously, external environment scanning (*seeing* and *willing*) stressed by IE and internal capability development (*willing* and *being able*) stressed by RBT are seen as complementary determinants of profit performance, collectively covering the four elements of a SWOT-analysis (Ansoff, 1965). As a result, the IS rent framework focuses on a firm's strategic factor and product markets for discovering the rent-earning potential of information imperfections, and takes into account within-firm aspects as well as the surrounding competitive market environment of the industry (see 'rent source' in Table 1).

3. Exploring IS rent opportunities

In exploring or seeing opportunities to earn IS rent (see Figure 1), the firm needs to identify practical manifestations of information imperfections. This involves identifying the factor and product markets that are relevant for implementing its business strategy and assessing in each of these markets which instances of incomplete information and information asymmetry are present.

From the individual firm's perspective, instances of *incomplete information* occur when it makes exchange-related decisions without being able to dispose of *all* the potentially relevant information required to make the economically most efficient decision (satisficing). In factor markets, a firm faces such instances for example when it lacks information about the availability, prices and quality of resources at the different resource suppliers, or the intentions of firms competing for the same resources. In product markets, these instances of incomplete information could for example include a lack of information about customer demands, their price and quality sensitivity, potential substitute products, and the intentions of competitors and potential entrants.

Instances of *asymmetrical information* are found in the occasion that a firm has private information that is costly to draw level for other market parties, and the private information is

used to benefit the firm possessing the advantage. From the individual firm's perspective, information asymmetries can only be identified taking into account other market parties and take practical shape as either an information advantage or information disadvantage. Whereas the classic examples of information asymmetry in the insurance and used-automobile industry (adverse selection (Akerlof, 1970) and moral hazard (e.g. Arrow, 1984)) illustrate how informational advantages are hazardous to economic transactions, more recent contributions exemplify how information advantages can be strategically exploited in product markets as for instance in product diversification (Nayyar, 1990), and R&D (Aboody and Lev, 2000; Davis, 2001). Not only adhering to the latter view, we also add that information advantages are not restricted to product markets, but can be exploited in strategic factor markets as well. An example would be when a firm is able to make an accurate expectation of the future value of specific management or R&D skills to be acquired on labour markets while others underestimate the return potential of such skills (Barney, 1986).

4. Exploiting IS rent opportunities

In exploiting opportunities to earn IS rent (see Figure 1), firms need to decide whether they are willing and able to exploit the identified IS rent opportunities. This entails a choice on whether and how to address the instances of information imperfections in the strategic factor and product markets identified in the explore-part. A firm decides (a) whether the firm is anxious to exploit the identified instances of information imperfections (*willing* to act upon IS rent opportunities) and (b) whether it is possible and worthwhile to dedicate resources and competencies to address the instances of information imperfection (*being able* to act upon IS rent opportunities).

The *willingness* of a firm to act upon IS rent opportunities is partly influenced by choices in adjacent strategic domains, such as business strategy, finance and IT. For instance, firms pursuing a cost leadership strategy can be expected to regard increased price transparency as desirable, whereas firms with good reputations and large marketing budgets could regard increased transparency of price, product, and quality differences as particularly undesirable. Market opaqueness allows such firms to influence consumers' perceptions in their comparisons through intensive marketing.

The *ability* of a firm to act upon IS rent opportunities is influenced both by its allocative and dynamic ability (i.e. the extent to which it can acquire and learn to employ the resources and competencies required to implement its decision), and the intrinsic possibility to influence a market's information imperfections given the market's (micro)structure (Spulber, 1999). In the

theoretical framework, we account for market microstructure under three headers: the market characteristics, market mechanisms, and possible (counter)actions and opportunistic attitudes of other market parties. This includes for instance the number and diversity of market parties, the level of resource or product homogeneity, the degree of regulation or formalization of transactions and the proclivity of market parties to behave opportunistically. Markets that are characterized by many different opportunistic market parties, a high level of product differentiation and a low degree of formalization in transactions are intrinsically more opaque than highly regulated markets for homogeneous goods with fixed prices. Consequently, the possibility for a firm to address the information imperfections and to influence the market's transparency will differ given the idiosyncrasies of the market's microstructure.

All of the above considerations in the exploit-part can be captured in a fundamental difference in IS rent-seeking: firms either *resolve* or *consolidate* an instance of information imperfection. A firm that decides to resolve instances of information imperfection dedicates extra resources and competencies, such as information, IT and analytical skills in order to become more completely informed about particular aspects of strategic factor and product markets, while a firm that decides to consolidate does not. This simple difference enables to describe the essence of a firm's IS rent-seeking behaviour in terms of a set of generic resolve/consolidate decisions. Collectively, these decisions within the firm and market context and the dynamic reactions provoked with competitors are the IS rent *mechanisms* that determine to what extent a firm is able to actually earn IS rent.

5. IS rent propositions

In a competitive market, the possibility for a firm to earn IS rent involves trade-offs since it depends on other parties' strategies. More specifically, it partly depends on the extent to which the IS rent-seeking behaviour of other market parties and the market's structure leave room for addressing instances of incomplete information and information asymmetry, and partly on the willingness and ability of the firm to seize the opportunity and exploit it to its own benefit. Notably, not all IS rent decisions directly aim for IS rent: some are aimed at withholding other firms from earning it or at alleviating competitive disadvantages. Similar to the IE perspective (see 'perspective' in Table 1), IS rent-seeking behaviour includes defending itself from competitive forces (defensive effects) and influencing them in its favour (offensive effects). The four IS rent propositions below (P1 to P4) provide an overview of IS rent decisions and form the theoretical core of the mechanisms that link a firm's IS capability to the possibility to earn IS

rent. For a complete understanding of how and why a firm realizes IS rents the specific market and firm context needs to be taken into account in addition (see our case study).

P1: A firm can seize an opportunity to earn IS rent by:

(a) privately resolving an instance of incomplete information into an information advantage, either individually or in cooperation with other market parties, or

(b) consolidating an instance of information advantage over other market parties, either individually or in cooperation with other market parties.

Firms can decide to (a) actively create an instance of information advantage or (b) protect and exploit an existing instance of information advantage. In factor markets, private or strategically disclosed information could enable a firm to make a more accurate expectation of the future value of a resource than other market parties. These expected value differences might not be reflected in the price of the resource acquired, therefore the firm can earn IS rent in case the resource proves to be undervalued as a result of the other market parties' information disadvantage (cf. Barney, 1986). In product markets, a firm can earn IS rent in case its private or strategically disclosed information allows it to maximize the value of the productive service of its resource bundles, while the information disadvantage hinders other market parties' value maximization.

P2: A firm can (consciously) ignore an opportunity to earn IS rent by:

(a) consolidating an instance of incomplete information, and thus *not* privately resolving it into an information advantage, either individually or in cooperation with other market parties.

Since some of the IS rent decisions require a firm to dedicate extra resources and competencies, implementing them can incur costs. These costs are associated with the resources and competencies that need to be acquired or developed, and employed. Firms can decide that it is impossible, insufficiently worthwhile or too costly to dedicate resources and competencies to create an information advantage over other market parties compared to the expected IS rent that could be appropriated from the advantage. In factor markets, the cost incurred could exceed the expected future value of a resource. Similarly, the expected benefit in value maximization in product markets could not outweigh the costs associated with implementing the IS rent-seeking

decision required to realize this benefit. In either case, this implies that an instance of incomplete information is left as an IS rent opportunity for other market parties.

P3: A firm can tolerate other market parties to earn IS rent by:

(a) consolidating an instance of information disadvantage that it has relative to other market parties, either individually or in cooperation with other market parties, or

(b) resolving an instance of information advantage by sharing its private information with other market parties, either individually or in cooperation with other market parties.

A firm can decide to (a) consolidate an information disadvantage, for it is impossible, not worthwhile or too costly to draw level the disadvantage that allows the market party with the advantage to earn IS rent. Possibly, the resources or competencies required to draw level the disadvantage are unavailable, the opportunistic practices of the market party with the advantage might be highly unlikely to be given up, or the benefit of resolving the disadvantage might not compensate for the costs incurred. Alternatively, a firm can decide to (b) resolve an instance of information advantage for the sake of strategic cooperation with other market parties (e.g. strategic alliances, franchises or joint ventures). The IS rent that is earned with the information advantage can then be divided amongst the cooperative market parties. A possible motive to resolve an information advantage is the expectation to increase the total amount of IS rent that can be earned from the combined information of individual market parties.

P4: A firm can reduce the IS rent that other market parties earn by:

(a) privately resolving an instance of information disadvantage that it has relative to other market parties, either individually or in cooperation with other market parties.

Typical examples of firms attempting to reduce or draw level instances of information disadvantage are for example price/product comparison websites or information-based intermediaries (infomediaries or web-aggregators (Madnick et al., 2000; Zhu et al., 2001). These firms can reduce or even entirely evaporate the benefit of private or strategically disclosed information of other market parties by aggregating information and facilitating comparisons of resources of different suppliers in factor markets or products/services of

different firms in product markets. Firms that are able to resolve information disadvantages are in a position to pressure other market parties to give up (part of) their IS rent, therewith potentially creating an information advantage for themselves.

The total amount of IS rent a firm can appropriate with its IS rent-seeking behaviour is thus determined by the amount of IS rent appropriated and sustained by each of the IS rent mechanisms in strategic factor and product markets, minus the costs incurred with the implementation of these mechanisms. On top of this, a firm needs to be aware of the extent to which its behaviour changes the nature, or ‘rules’, of competition in a market and the likely counteraction it provokes at other market parties. In addition, regulatory authorities such as market or governmental authorities (e.g. SEC) are in a position to limit the amount of IS rent firms can appropriate. These institutions can decide to publicly resolve instances of incomplete information or information asymmetry either by law or regulation supported by ‘watchdogs’. These regulatory measures are generally aimed at reducing the amount of IS rent that can be earned by firms in order to increase economic and social welfare.

6. Research methodology

In order to enhance our IS rent framework and theoretical IS rent propositions we conducted a two-year qualitative sector study of the Dutch leisure travel industry in order to gain insight in the nature of IS rent mechanisms in practice. The travel industry is suitable for this empirical study for its high information-intensiveness and low degree of informational transparency. IS rent-seeking behaviour can thus be expected to be a highly relevant aspect of a firm’s strategy and business model, to possibly have a considerable influence on the market’s transparency and to actually result in IS rent. These industry characteristics increase the likelihood of encountering a variety of IS rent mechanisms covering the four theoretical propositions.

The sector study included an in-depth case study at three successive market parties in the value chain: an airline, tour operator TravelCom and a travel comparison website. In these organizations 25 semi-structured interviews were held with managers in various positions ranging from managing director, financial director, IT/information manager to managers in sales, purchase and marketing. The initial firm contact and the available highest-ranking manager were first interviewed to determine the factor and product markets that were crucial for the firm’s business. For each of these markets, the corresponding managers were identified and contacted for an interview. These interviews were structured in accordance with the theoretical framework and addressed the manager’s role in the context of the overall firm, some key figures and their perception of the firm’s strategic spearheads, the information imperfections that they

identified in the market they were responsible for and their analysis of the corresponding IS rent decisions. The interviews were complemented by written documentation such as company reports, annual reports, industry rules and guidelines, and information from the company website and intranet, allowing data triangulation. All available data were transcribed, coded with a coding scheme that was derived from the theoretical framework and analysed using a software tool (Atlas.ti) for qualitative data analysis. The coded data were ordered in conceptually-ordered displays (Miles and Huberman, 1994) to relate and confront both corresponding and contradictory sayings on IS rent decisions in a particular market (full details on the method and coding scheme can be found in (Truijens, 2004).

The synthesized findings of the sector study are presented through the lens of tour operator TravelCom. We adopt TravelCom as the focal organization for the analysis for it is at the centre of the sector's competitive arena: surrounded on its strategic factor and product markets by market parties that are confronted with and react to its IS rent-seeking behaviour. The specific choice for TravelCom is justified by its reputation of being the most information-oriented travel organization within the largest Dutch travel concern with an above-average net margin of 7%, while the industry's average is 1 to 2%. If, in fact, these above-average returns can be (partly) related to TravelCom's IS capability, this would have to show in a general trend in its behaviour to actively seek IS rent.

TravelCom is one of the three subsidiary companies of the largest Dutch travel organization. TravelCom is the fifth largest tour operator in the Netherlands with around 200 employees (excluding travel agency personnel), approximate annual returns of 100 M€ accounted for by around 200.000 vacationers. It produces package tours by allotting, coordinating and combining individual travel components allocated at various factor markets. The markets for charter flights, scheduled flights and accommodation are the core constituent components and thus considered as the strategic factor markets for tour operators. As a distributor of package tours, TravelCom sells its travel products on the product market for package tours. It focuses on offering package tours for groups in the form of organized round trips at cultural locations and city trips and intends to maximize its net margin by generating the highest possible returns on invested capital. At current, the success of this objective shows in a positive net margin that is significantly higher than the industry's average. We argue that this difference can be partly explained by TravelCom's business strategy and partly by its IS rent-seeking behaviour. Therefore, the essence of TravelCom's business strategy is first briefly characterized, followed by an overview the IS rent-seeking mechanisms in the strategic factor and product markets to assess how its decisions relate to the theoretical IS rent propositions.

7. Findings and discussion

Whereas the majority of tour operators primarily focus on realizing economies of scale in purchasing travel components, TravelCom differs in its business strategy and IS capability and has a demand-side orientation. This orientation is tantamount to a concentration of effort to capture and analyse information about its customers' needs and preferences for travel products. A number of data capturing tools, a data warehouse, and CRM-like tools and analysis techniques facilitate the storage and analysis of information on past and current booking behaviour of customer groups and the results of customer satisfaction surveys (average response rate 40%). This demand-side information allows TravelCom to adapt its product offering to suit the needs of its customers in a dozen labels that focus on a variety of narrowly defined target groups (e.g. active 55⁺ seniors, adventurous young people, sports-lovers, Christians or single travelers). Each label is approached with a tailor-made service proposition, marketing approach and corresponding distribution channel. In its marketing strategy, TravelCom employs multiple distribution channels to promote and sell its products. As a direct seller, TravelCom relies both on its company-owned retail outlets (approximately 25 in number spread over the Netherlands, that account for 80% of the total returns), and on its call centre, online booking facilities, direct mailings and advertisements in newspapers and magazines. TravelCom takes an active approach in directly marketing its travel products to specific target groups based on previous bookings and information gathered from customer contact (e.g. click behaviour on its website, interaction with the call centre, reactions to direct mailings). The combination of a multi-channel and direct marketing approach allows TravelCom to respond to unforeseen fluctuations in travel demand more rapidly than its brochure-based competitors.

Table 2 provides an overview of TravelCom's IS rent-seeking mechanisms, showing the strategic factor or product market in which the information imperfections were identified, the source, type and specific instance of imperfection, TravelCom's decision to either resolve or consolidate it and the corresponding strategic assumption with regard to IS rent.

Table 2 Overview of TravelCom's IS rent mechanisms

Market (factor/product)	Source of imperfections	Type of imperfection	Instance of information imperfection	Decision	Strategic assumption and IS rent proposition
Charterflights (factor market)	negotiation-based market mechanism	information disadvantage (vis-à-vis airlines)	Uncertain whether charter service to particular destinations will exist the coming season	consolidate	Tolerate others to earn <i>InfoRent</i> by avoiding the market for charter flights (P3a)
	no standard to calculate allotment prices	information disadvantage (vis-à-vis competing tour operators)	Allotment prices that competing tour operators negotiate at airlines	consolidate	Tolerate others to earn <i>InfoRent</i> by avoiding the market for charter flights (P3a)
Scheduled flights (factor market)	negotiation-based volume discounts	information disadvantage (vis-à-vis competing tour operators)	Quoted fares that competing tour operators negotiate at airlines	resolve	Reduce the <i>InfoRent</i> of others by estimation through comparison with own allotment volumes (P4a)
	negotiation-based volume discounts	information advantage (over competing tour operators)	Quoted fares that TravelCom negotiates at airlines	consolidate	Seize <i>InfoRent</i> opportunity by not disclosing information on its quoted fares (P1b)
Accommodation (factor market)	amount and variety of accommodation supply	incomplete information	The range of available accommodation worldwide	resolve	Seize <i>InfoRent</i> opportunity by gathering information from local agents and hosts, and attending professional meetings (P1a)
	difficulty of quality assessment	incomplete information	The quality, and quality of service of accommodation	resolve	Seize <i>InfoRent</i> opportunity through accommodation visits, satisfaction surveys and a subscription to Toeristiek (P1a)
	negotiation-based volume discounts	information disadvantage (vis-à-vis accommodation suppliers)	Quoted allotment prices that competing tour operators have negotiated at accommodation suppliers	resolve	Reduce the <i>InfoRent</i> of others by estimation through comparison with its own allotment volumes (P4a)
	negotiation-based volume discounts	information advantage (over competing tour operators)	Quoted allotment prices that TravelCom negotiates at accommodation suppliers	consolidate	Seize <i>InfoRent</i> opportunity by not disclosing information on its quotes prices (P1b)

Package tours (product market)	potential of CRM not recognized; intermediation by travel agents	incomplete information	Consumer demand for package tours	resolve	Seize <i>InfoRent</i> opportunity by registering and analyzing booking history and customer contact information (P1a)
	advertising all-inclusive prices	information advantage (over consumers and competing tour operators)	The price composition of package tours	consolidate	Seize <i>InfoRent</i> opportunity by differentiating products from competitors (P1b)

TravelCom's decision to tolerate others to earn IS rent on the strategic factor market for charter flights relates to the absence of incentives for airlines to disclose the aggregate requested demand for seats to a particular destination. As a consequence, tour operators have only limited information about the probability that an airline will service a destination the coming season. Also, competing tour operators will not disclose the allotment prices that they have negotiated at airlines, since TravelCom could exploit this information in its own allotment negotiations. These information disadvantages have made TravelCom decide to avoid the use of charter flights as travel component in its package tours as much as possible and to use flights from scheduled service carriers instead.

In the strategic factor market for scheduled flights, the main information imperfection is the non-disclosure of quoted fares (i.e. price including large volume discounts) that tour operators negotiate at airlines. However, these quoted fares can be estimated by analyzing the commercial fares listed in Global Distribution Systems. Over the years, TravelCom has built up experience in making these estimates by analyzing the volumes and trends of competitors in previous seasons, comparing this estimated volume with its own allotment volume and calculating the discounts that relate to this difference. TravelCom uses this information as a benchmark in its negotiations with airlines on scheduled flights in order to reduce the IS rent competitors can earn. At the same time, TravelCom complies with not disclosing its quoted fares in order to hamper less experienced competitors in estimating the quoted fares that TravelCom negotiates itself.

The strategic factor markets for accommodation is characterized by the difficulty of quality assessment, besides a lack of price transparency. Whereas some tour operators believe it is the accommodation provider's responsibility to provide correct information on the quality of its accommodation, TravelCom actively seeks to gain this insight itself by relying on three information sources: accommodation visits and experiences by local agents and hosts, results and trends from customer satisfaction surveys providing detailed information on the perceived accommodation quality, and objective information on accommodation provided by a subscription to Toeristiek⁶. TravelCom actively creates and sustains this information advantage, since it enables to ensure high quality accommodation and to optimally adjust the acquisition of travel components to the preferences of its intended target groups.

⁶ Information supplier Toeristiek regularly visits holiday resorts and accommodations worldwide in order to check whether the published information in brochures matches the actual situation. These checks include for instance the walking distance to the beach or pool, the exact room size, wheel chair accessibility and the quality and availability of guest facilities such as showers, child seats and lockers.

In the product market for package tours TravelCom seizes the IS rent opportunity created by a general lack of insight in consumer demand by registering and analyzing booking histories of its existing customer-base through CRM and data warehouse techniques. Compared to the majority of tour operators who are at the very beginning of structurally collecting and analyzing information about consumer demand, TravelCom has build up experience in analyzing customer information over the last 15 years, which proves to be a crucial element of its IS capability. It derives customer profiles from these data distinguishing socio-demographics, holiday needs, booking behaviour and attitudes towards destinations or type of travel. Moreover, its direct sales strategy puts it in full control of the process of capturing and analyzing the required information for the analyses. When in fact TravelCom proofs to derive better expectations about consumer demand than competitors, it forms an attractive party for airlines in the seat allotments negotiations. Moreover, it allows TravelCom to optimize on economies of scale in both flight and accommodation allotments, and to be able to take the appropriate level of risk-taking in its contracts, therewith lowering the allotment price.

In order to guard itself against the increasingly price-based competition TravelCom advertises its products with an all-inclusive price and inhibits price comparisons of its products with competing products through product differentiation. This prevents consumers and travel comparison websites from making objective comparisons based on prices of the individual components of a package tour. TravelCom seizes an IS rent opportunity by forcing consumers to pay attention to the content, quality and service level of the package tour and relies on a relatively large marketing budget and an established reputation for offering up-market package tours.

Reflecting on the four IS rent propositions (see Table 3), TravelCom can be characterized as an IS rent-seeker that seizes opportunities to earn IS rent (P1a or P1b) and reduces the IS rent of others (P4a). This confirms our initial expectation that was based on TravelCom's reputation of being information-oriented and its 5 to 6% above-average net margin.⁷

⁷ Quantifying the exact share of IS rent in a firm's overall rents is arrested by measurement problems that are equally relevant to all existing rent types that distinguish the source of above-average performance.

Table 3 TravelCom’s IS rent decisions per proposition

IS rent proposition		Imperfection	Decisions	Markets (# of instances)
Seize IS rent opportunity	P1a	incomplete	resolve privately	- Accommodation (2x) - Package tours (1x)
	P1b	advantage	consolidate	- Scheduled flights (1x) - Accommodation (1x) - Package tours (1x)
Ignore IS rent opportunity	P2a	incomplete	consolidate	---
Tolerate others to earn IS rent	P3a	disadvantage	consolidate	- Charter flights (2x)
	P3b	advantage	resolve	---
Reduce the IS rent of others	P4a	disadvantage	resolve	- Scheduled flights (1x) - Accommodation (1x)

The primary ‘offensive’ focus (cf. Spanos and Lioukas (2001) of TravelCom’s rent-seeking behaviour is actively seeking and capitalizing on IS rent in the product market for package tours. Undeniably, TravelCom’s business strategy and IS capability are driven by its focus to capture the value of customer information where competitors have been structurally unaware, underestimating or incapable of grasping the opportunities of using customer information and CRM techniques to improve business. As the financial director stated: “Other tour operators simply do not have the customer information that we have built up. They have never been aware of the value of knowing your customers.” Even though the industry increasingly recognizes the importance and value of this information, TravelCom has a 15-year lead in developing the IS competencies to gather and analyse customer information and adjusting its business strategy and IS capability accordingly. The head of IS explained: “Our success is not an incident, but a direct result of our commercial strategy. The sustained competitive advantage draws to a large extent on our knowledge of our customers-base and everything that results indirectly from it. (...) Knowing our customers enables us to effectively adapt our purchase policy of travel components. In the end, it’s all about the customer, not the product.” Hence, TravelCom’s IS capability is driven principally by its ability to collect, store, maintain and interpret information, and is based on the information-based competences that are reinforcing and reinforced by its business and IS/IT strategy.

The secondary, more ‘defensive’ focus (cf. Spanos and Lioukas (2001), that we distinguish in TravelCom’s IS rent-seeking behaviour is: (a) to avoid markets that are inherently opaque and (b) to reduce the amount of IS rent others earn. TravelCom’s decision to tolerate others to earn IS rent (P3a) and to avoid the market for charter flights is guided by its expectation not to earn IS rent itself and more

importantly the expectation that airlines will exploit their information advantage at the detriment of tour operators. Finally, the remaining IS rent-seeking decisions in both its strategic factor markets are aimed at reducing the IS rent that others can earn (P4a) by preventing them to sustain any information advantages.

The TravelCom case has enlightened the IS rent framework in various regards. It shows that a range of market- and firm-specific causes of market opaqueness can be classified under the headers of either *incomplete information* or *information asymmetry*. Similarly, it shows how a range of idiosyncratic considerations can be caught in the dichotomy of two fundamental IS rent-seeking decisions: *resolve* or *consolidate*. Next, the case exemplifies how a market's microstructure determines the *possibility* for a firm to influence a market's transparency. Finally, the study shows the importance of a firm's allocative and dynamic ability to implement IS rent-seeking behaviour. Taken together, the case demonstrates that the four theoretical rent propositions provide a good point of departure for identifying and describing ten actual IS rent mechanisms employed by TravelCom (see Table 2).

8. Conclusions and implications

The IS rent framework is a first step in showing that an understanding of IS capability should be based on the complementarities between RBT and IE. We argue that this will ease the “fusion of IS knowledge with business knowledge” (Peppard and Ward, 2004, p.183) since our knowledge of IS capability can then be based on the same two theoretical bases that have dominated the advance of the business strategy field. This implies that the development of an IS capability should include a focus on both factor and product markets, within-firm factors and market structure as sources of performance, the tripartite of seeing, willing and being able to address IS rent opportunities, and offensive and defensive effects in order to continually realize outcomes producing advantage in the marketplace.

In addition, the concept of IS capability can benefit from a more explicit focus on the rent-potential of information, in addition to the emphasis on improving the behaviour and values around information use (Marchand *et al.*, 2001). Our focus enhances the current understanding of IS capability in several ways. Foremost, it explains more precisely how an IS capability can result in IS rents by highlighting the mechanisms around information imperfections in factor and product markets (i.e. IS rent opportunities). Consequently, the IS rent framework has introduced IS rent as dependent variable for an IS capability and distinguishes four IS rent propositions that capture both offensive and defensive effects of IS rent-seeking behaviour. This allows us to test the extent to which firms with a presumed IS capability are capable of implementing an “effective use process” (Peppard and Ward, 2004, p.184) and can thus be characterized as IS rent-seekers. Second, the IS rent framework emphasizes ‘exploration’ as an important IS competence

domain that precedes the ‘exploitation’ competencies that Peppard and Ward discern. Third, it adds scrutiny to these exploitation competencies by distinguishing between willing and being able to act upon identified IS rent opportunities and by including both internal firm-specific factors (i.e. allocative and dynamic ability) and external market microstructure as contingent factors in the mechanisms that lead to IS rent.

Finally, the IS rent framework supports the newly introduced view of alignment (Peppard and Ward, 2004). It stresses the tripartite nature of the strategic alignment issue (Maes, 2004) instead of the traditional dyadic view of business-IT alignment. A firm’s IS rent-seeking behaviour (and thus IS capability) is influenced, restricted and facilitated by both its business strategy and its IT strategy, including the underlying IT competencies and the extent to which the firm is able to provide a “flexible and reusable IT infrastructure” (Peppard and Ward, 2004, p.183). Vice versa, IS rent-seeking behaviour can co-determine a firm’s business and IT strategy and IT infrastructure requirements, such as the need for adopting emerging technologies that increase the firm’s possibilities to earn IS rent.

We conclude by identifying several research opportunities related to the introduced IS rent framework. The first opportunity relates to the difficulty of quantifying the exact share of a firm’s rents that can be labelled as IS rent. The problem of quantifying the exact part of a certain rent type in a firm’s overall rents is not exclusive for IS rent; it is equally relevant for all distinguished rent types. Part of TravelCom’s success can be ascribed to its unique position as a direct seller using multi-channelling in its marketing. However, several direct-selling competitors exist within the travel industry that are significantly less successful. We hold that a firm’s IS capability to explore and exploit information imperfections and its capability to combine this into a superior overall business strategy makes the difference. In general, the more information-intensive a firm is, the more business strategy depends on its IS capability, the larger part IS rent has in a firm’s overall rents.

This assumption, however, needs further investigation, for instance by conducting sector studies in information-intensive and less information-intensive industries other than the travel industry⁸. Other research opportunities include for instance the further incorporation of process and competitive dynamic aspects of IS rent-seeking and the sustainability of IS rent. Finally, a major challenge resides in examining the consequences of including interpretation and sense-making aspects of information (cf. Choo and Bontis, 2002) into the framework.

⁸ In general, more sector, or industry level, studies should be conducted in IS (Crowston and Myers, 2004).

These and other topics need to be explored in order to further enhance our understanding of the mechanisms and processes that lead to IS-based rents. If so, we can continue to advance our understanding of the relation between information, systems and technology, and organizational performance in the new era of IS capability.

References

- Aboody, D., Lev, B., 2000. Information Asymmetry, R&D, and Insider Gains. *The Journal of Finance* LV (6), 2747-2766.
- Akerlof, G.A., 1970. The market for "lemons": qualitative uncertainty and the market mechanism. *Quarterly Journal of Economics* 84 (3), 488-500.
- Ansoff, H.I., 1965. *Corporate Strategy*. McGraw Hill, New York.
- Aoki, M., Gustafsson, B., Williamson, O.E., 1990. *The Firm as a Nexus of Treaties*. Sage, London.
- Arrow, K.J., 1984. Information and Economic Behaviour, *Collected Papers of Kenneth J. Arrow - The Economics of Information*, 136-152. The Belknap Press of Harvard University Press, Cambridge.
- Barney, J.B., 1986. Strategic Factor Markets: Expectations, Luck and Business Strategy. *Management Science* 32 (10), 1231-1241.
- Choo, C.W., Bontis, N., 2002. *The Strategic Management of Intellectual Capital and Organizational Knowledge*. Oxford University Press, New York.
- Clemons, E.K., Dewan, R.M., Kauffman, R.J., 2004. Special Issue: Competitive Strategy, Economics, and Information Systems. *Journal of Management Information Systems* 21 (2), 5-9.
- Conner, K.R., 1991. Historical Comparison of Resource-Based Theory and Five Schools of Thought Within Industrial Organization Economics: Do We Have a New Theory of the Firm? *Journal of Management* 17 (1), 121-154.
- Crowston, K., Myers, M.D., 2004. Information technology and the transformation of industries: three research perspectives. *Journal of Strategic Information Systems* 13 (1), 5-28.
- Davis, L., 2001. R&D Investments, Information and Strategy. *Technology Analysis and Strategic Management* 13 (3), 325-342.
- Esö, P., Szentes, B., 2003. The One Who Controls the Information Appropriates its Rents. NorthWestern University, Kellogg School of Management, CMS-EMS Discussion Paper #1369.
- Grant, R.M., 1991. The Resource-Based Theory of Competitive Advantage: Implications for Strategy Formulation. *Californian Management Review* 33 (3), 114-125.
- Hayek, F.A., 1945. The Use of Knowledge in Society. *The American Economic Review* 35 (4), 519-530.
- Hoskisson, R.E., Hitt, M.A., Wan, W.P., Yiu, D., 1999. Theory and research in strategic management: Swings of a pendulum. *Journal of Management* 25 (3), 417-456.
- Jatinder, N.D.G., Quaddus, M., Galliers, R.D., 2004. Strategic Information Systems in the Post-Net Era. *Journal of Strategic Information Systems* 13 (2), 87-89.
- Knott, A.M., 2002. Exploration and Exploitation as Complements. In C.W. Choo, N. Bontis (Eds.), *The Strategic Management of Intellectual Capital and Organizational Knowledge*, 339-358. Oxford University Press, New York.
- Madnick, S., Siegel, M., Frontini, M.A., Khemka, S., Chan, S., Pan, H., 2000. Surviving and Thriving in the New World of Web Aggregators, 1-22. Massachusetts Institute of Technology Engineering Systems Division, Working Paper Series ESD-WP-2000-04.
- Maes, R., 2004. Information management: a roadmap. Universiteit van Amsterdam, PrimaVera Working Paper 2004-13.
- Mahoney, J., 1995. The Management of Resources and the Resource of Management. *Journal of Business Research* 33 (2), 91-101.

- Mahoney, J.T., Pandian, J.R., 1992. The Resource-based View within the Conversation of Strategic Management. *Strategic Management Journal* 13 (5), 363-380.
- Marchand, D.A., Kettinger, W.J., Rollins, J.D., 2000. Information Orientation: People, Technology and the Bottom Line. *Sloan Management Review* 41 (4, Summer), 69-80.
- Marchand, D.A., Kettinger, W.J., Rollins, J.D., 2001. Information Orientation: The link to business performance. Oxford University Press, New York.
- Miles, M.B., Huberman, A.M., 1994. *Qualitative Data Analysis: an expanded sourcebook*. (2 ed.). Sage Publications, Inc., Thousand Oaks.
- Nayyar, P.R., 1990. Information asymmetries: a source of competitive advantage for diversified firms. *Strategic Management Journal* 11 (7), 513-519.
- Nelson, R.R., Winter, S.G., 1982. *An Evolutionary Theory of Economic Change*. Harvard University Press, Belknap Press, Cambridge, Massachusetts.
- Penrose, E.T., 1959. *The Theory of the Growth of the Firm*. John Wiley, New York.
- Peppard, J., Ward, J., 2004. Beyond strategic information systems: towards an IS capability. *Journal of Strategic Information Systems* 13 (2), 167-194.
- Porter, M.E., 1985. *Competitive Advantage*. The Free Press, New York.
- Rivard, S., Raymond, L., Verreault, D., 2006. Resource-based view and competitive strategy: An integrated model of the contribution of information technology to firm performance. *Journal of Strategic Information Systems* 15 (1), 29-50.
- Rumelt, R.P., Schendel, D., Teece, D.J., 1991. Strategic Management and Economics. *Strategic Management Journal* 12 (Special Issue: Fundamental Research Issues in Strategy and Economics, Winter), 5-29.
- Seth, A., Thomas, H., 1994. Theories of the Firm: Implications for strategy research. *Journal of Management Studies* 31 (2), 165-191.
- Simon, H.A., 1955. A behavioural model of rational choice. *Quarterly Journal of Economics* 69 (1), 99-118.
- Spanos, Y.E., Lioukas, S., 2001. An examination into the causal logic of rent generation: contrasting Porter's competitive strategy framework and the resource-based perspective. *Strategic Management Journal* 22 (10), 907-934.
- Spulber, D.F., 1999. *Market Microstructure*. Cambridge University Press, Cambridge, UK.
- Truijens, O., 2004. *Towards a Theory of Information Strategy: exploiting market opaqueness in search for InfoRent*, Business Studies, Faculty of Economics and Econometrics. University of Amsterdam, Universal Press, Veenendaal.
- Wade, M., Hulland, J., 2004. Review: The Resource-Based View and Information Systems Research: Review, Extensions, and Suggestions for Future Research. *MIS Quarterly* 28 (1), 107-142.
- Wernerfelt, B., 1984. A Resource-based View of the Firm. *Strategic Management Journal* 5 (2), 171-180.
- Wigand, R., Picot, A., Reichwald, R., 1997. *Information, organization and management - expanding markets and corporate boundaries*. John Wiley & Sons Ltd, Chichester, UK.
- Williams, J.R., 1994. Strategy and the Search for Rents: The Evolution of Diversity among Firms. In R.P. Rumelt, D.E. Schendel, D.J. Teece (Eds.), *Fundamental Research Issues in Strategy and Economics: A Research Agenda*, 229-246. Harvard Business School Press, Boston, Massachusetts.
- Williamson, O.E., 1975. *Markets and Hierarchies: Analysis and antitrust implications*. The Free Press, New York.
- Williamson, O.E., 1985. *The Economic Institutions of Capitalism*. Free Press, New York.
- Yao, D.A., 1988. Beyond the Reach of the Invisible Hand: Impediments to Economic Activity, Market Failures, and Profitability. *Strategic Management Journal* 9 (Special Issue: Strategy Content Research), 59-70.
- Zack, M.H., 1999. Developing a Knowledge Strategy. *California Management Review* 41 (3), 125-145.

Zhu, H., Siegel, M.D., Madnick, S., E., 2001. Information Aggregation - a value-added e-service, International Conference on Technology, Policy, and Innovation: Critical Infrastructures, The Netherlands.

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