Analyzing Firm-Level Strategy for Internet-Focused Reintermediation

Alina M. Chircu
achircu@csom.umn.edu

Robert J. Kauffman
rkauffman@csom.umn.edu

Information and Decision Sciences Department, Carlson School of Management,
University of Minnesota, 321 - 19th Avenue South, Minneapolis, MN

Abstract

We propose a framework for understanding circumstances under which information technology (IT) innovations for electronic commerce (EC) change firm-level strategic choices, and the economic forces behind these choices, in Internet market competition. We identify a recurring pattern of intermediation, disintermediation and reintermediation: the “IDR cycle.” With this framework, we explain technological reintermediation, where a disenfranchised player is able to compete again, by combining technological innovation with leveragable co-specialized assets. We build this perspective with evidence from the corporate travel industry. The analysis reveals that traditional travel firms have access to a range of strategies that enable them to avoid disintermediation and become more powerful in the long run.

1. Introduction

Electronic commerce (EC) is “the use of electronic means and technologies to conduct commerce” [31]. By enabling new ways of doing business through information technology (IT), EC transforms industry structure, improves organizational effectiveness and increases consumer welfare. The new electronic markets are different from traditional, physical markets, so new strategies and business logic are required [7, 21]. Consequently, there is a need to bring new theory to the problem of explaining how the competitive environment changes in the on-line world, and predicting successful firm-level strategies.

1.1. Competing Views on Disintermediation

Disintermediation occurs when a middleman gets pushed out by other firms, or when the services it provides become irrelevant as other ways to get a transaction done become available. Once electronic markets emerge, traditional intermediaries are threatened due to an electronic brokerage effect [19]. Competition among various market participants who see benefits in becoming market makers also occurs [3].

Such competition can be interpreted in terms of the appropriability of the value of an innovation. Value appropriability refers to firm capabilities to capture profits consistent with innovations it offers in its marketplace. When an innovation has a weak appropriability regime [26] all industry players attempt to imitate it. However, to appropriate benefits, players must develop or acquire co-specialized assets: resources [26] that, in association with their technology, cannot be readily duplicated by competitors. Not all firms can do this, so disintermediation occurs. Another consequence is intermediation alliances [3, 19].

Empirical evidence does not convincingly support these theoretical perspectives, and one cannot conclude if the electronic brokerage effect will be pervasive. These studies do not attempt to analyze how the market participants change their roles over time. In fact, disintermediation may not occur [24], as new aggregation, facilitation and matching roles for intermediaries emerge [2, 4].

1.2. Explaining Firm-Level Strategy

In this paper, we draw on theories of electronic markets [3, 4, 19], innovation [26, 27, 28], and investments in IT [5, 23]. They inform our understanding of industry transformation and firm strategy. Unfortunately though, they do not go far enough to sort out all the issues.

We propose several characteristic scenarios, and a framework called the IDR cycle, to explain observed firm strategies. We consider economic incentives in situations where intermediation, disintermediation and reintermediation occur in association with the emergence of Internet business.
With this theoretical basis, we examine the travel industry in detail. Lacking established theory and because we want to characterize the evolution of firm-level strategies and market structure, case study methods are appropriate [6, 15].

Traditional intermediaries such as travel agents – and even powerful computerized reservation systems (CRSS) vendors – may be threatened at first. The threat comes from electronic intermediaries, who capture Internet-savvy customers. However, in the long run all signs point towards reintermediation. This is the process by which a competitor that has once been disintermediated, or pushed out of a profitable market niche, is able to reestablish itself as an intermediary that has both traditional and EC-supported relationships with its customers and suppliers. As a result, we expect to see biased, personalized electronic markets, operated by large firms.

2. Background Literature

Several literatures are relevant for this analysis. We review the electronic markets hypothesis; and consider forces that lead to various intermediation strategies. We also consider the resource-based view of the firm and how co-specialized assets support electronic reintermediation, creating new opportunities for the firm.

2.1. The Electronic Markets Hypothesis

IT is known to influence coordination of economic activity. (See Table 2.1.) Based on transaction cost theory, Malone et al. [19] argued that IT reduces asset specificity and product complexity in a transaction. They proposed the electronic markets hypothesis: more opportunities for market transactions than for transactions conducted in a business hierarchy emerge with IT present.

However, Hess and Kemerer [17] found no evidence of a shift towards electronic markets in the mortgage industry. No major electronic system was a pure electronic market. Other factors, such as transaction complexity and frequency, market structure and buyer/supplier power, may influence formation of markets or hierarchies.

Decreasing coordination costs do not automatically increase a company's number of suppliers. Electronic coordination with fewer suppliers can generate economies of scale [12]. Similarly, non-contractible investments by suppliers, such as innovation, responsiveness and information sharing, can be expected only when a company keeps its number of suppliers low and develops long term relationships with them [5]. This is not surprising: buyer/supplier relationships in electronic markets make more use of shared databases and processes, and become more like electronic hierarchies [19].

2.2. Intermediation and Disintermediation

The change IT produces in market structure affects intermediaries too. In IT-mediated market coordination, the electronic brokerage effect threatens intermediaries who previously matched buyers and suppliers. As search costs with IT fall, these intermediaries are no longer needed. Depending on their market power, they either will be disintermediated or remain in the value-added chain. Along these lines, Hess and Kemerer [17] also showed how mortgage intermediaries’ market power enabled them to avoid disintermediation. They opposed the introduction of electronic markets right from the start.

However, new opportunities exist for firms that provide electronic markets or electronic hierarchies [3, 4]. Not only traditional intermediaries, but also buyers, suppliers, financial service providers and IT vendors have incentives to become market makers. Bakos [3] hypothesized that large-scale, globally distributed intermediaries, formed by industry participants in collaboration with IT companies, will emerge in the

<table>
<thead>
<tr>
<th>Authors</th>
<th>Theory/Model</th>
<th>Contribution</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malone, Yates and Benjamin [19]</td>
<td>Transaction cost economics</td>
<td>Theoretical</td>
<td>IT reduces transaction costs, promoting the market governance over hierarchical governance. Electronic markets are characterized by elimination of middlemen, while electronic hierarchies characterized by tight coupling.</td>
</tr>
<tr>
<td>Clemons, Reddi and Row [12]</td>
<td>Transaction costs</td>
<td>Theoretical</td>
<td>IT causes move to fewer suppliers, contrary to EMH theory, by decreasing transaction risk, increasing incentives for suppliers and increasing costs and reducing benefits of search.</td>
</tr>
<tr>
<td>Bakos and Brynjolfsson [5]</td>
<td>Technology investments</td>
<td>Theoretical</td>
<td>IT promotes move to fewer suppliers, also contrary to EMH theory, due to increased need for innovation, responsiveness and information sharing.</td>
</tr>
<tr>
<td>Hess and Kemerer [17]</td>
<td>Electronic markets hypothesis</td>
<td>Empirical multi-firm, multi-industry study</td>
<td>EMH was not verified in the home mortgage industry.</td>
</tr>
</tbody>
</table>

Table 2.1. Summary of Relevant Electronic Markets Research
marketplace. Either by capturing dominant market share in a single industry or by becoming electronic market makers across a number of industries, such intermediaries will be capable of sustaining advantage by securing economies of scale and scope.

Bailey and Bakos [2] also emphasize the need for intermediation in electronic markets. Based on an analysis of thirteen business-to-business and business-to-consumer firms, they report that IT-mediated markets still need aggregators for one-stop shopping, trust providers, information exchange facilitators and information filtering brokers. The need for matching will be higher in markets with numerous, infrequently purchased products. While an electronic communication effect [19] reduces the cost of IT-supported communication, the same effect also increases the quantity of information suppliers consider. Filtering intermediaries can reduce information overload [2].

Another perspective, the "move-to-the-middle" hypothesis [12], suggests that industrial markets will have fewer suppliers and longer-term relationships that require less matching. Thus, factors that affect the governance structure ought to affect intermediation patterns as well.

2.3. Advantage in Electronic Markets

Numerous researchers have studied competitive advantage in traditional and electronic markets. (See Table 2.2.) Bakos [3] suggests that although electronic markets promote price competition and decrease sellers' profits, participation may be necessary. He defines a new type of competition: electronic market intermediation.

Another aspect is the appropriability of EC innovations. IT alone cannot be a source of sustained competitive advantage [20]. However, IT can help leverage critical firm resources, such as expertise, and create sustainable competitive advantage [11]. Firm-specific assets, including IT, reputational, relational and other assets, may play a major role in determining a firm's competitive position [26]. In addition, a technological innovation requires complementary assets. Firms that control co-specialized complementary assets, where mutual dependence on a technological innovation exists, are in a better position to appropriate benefits [26]. These assets are characterized by unique path dependencies, which make them hard to imitate. They consist of specialized industry-specific expertise, transaction data, and even customers. For example, strong airlines succeeded in capturing the benefits of CRSs (an imitable resource) by offering the systems to travel agencies (the co-specialized assets) [13].

Apart from securing ownership of necessary co-specialized assets, firms need to renew organizational skills, resources and functional competences to sustain advantage [28]. Thus, present innovation is a basis for further innovation, which becomes systemic [10] and requires tighter coupling of processes. Vertical integration may not always be possible, and therefore strategic alliances [27] are appropriate governance structures for EC innovations.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Theory/Model</th>
<th>Contribution</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teece [25]</td>
<td>Co-specialized resources</td>
<td>Theoretical</td>
<td>Firms can appropriate benefits from technological innovation if they own the necessary co-specialized resources.</td>
</tr>
<tr>
<td>Clemons and Row  [11]</td>
<td>Information technology and competitive advantage</td>
<td>Empirical (single-firm study)</td>
<td>IT investments can help firms gain competitive advantage by enabling technology leadership, leveraging critical resources, building the IT infrastructure and creating switching costs.</td>
</tr>
<tr>
<td>Teece [27]</td>
<td>Innovation, cooperative agreements and complementary assets</td>
<td>Theoretical</td>
<td>Strategic alliances facilitate innovation in regimes of rapid technological change.</td>
</tr>
<tr>
<td>Mata, Fuerst and Barney [20]</td>
<td>Resource-based view of the firm</td>
<td>Theoretical</td>
<td>IT: usually imitable and a substitutable resource that cannot sustain competitive advantage. Only unique IT management skills are a source of sustainable competitive advantage.</td>
</tr>
<tr>
<td>Chesbrough and Teece [10]</td>
<td>Innovation, proposed framework for virtual alliances</td>
<td>Theoretical</td>
<td>Centralization for innovation should be decided by taking into account innovation type (autonomous or systemic).</td>
</tr>
<tr>
<td>Teece, Pisano and Shuen [28]</td>
<td>Resource-based view Dynamic capabilities framework</td>
<td>Theoretical</td>
<td>Sustainability of competitive advantage in rapidly changing environments depends on firm's dynamic capabilities, i.e., on ability to integrate, build and renew internal technological, managerial and organizational processes.</td>
</tr>
</tbody>
</table>

Table 2.2. Summary of Relevant IT and Competitive Advantage Research
long-term commitments to their marketplaces, is likely to occur in the long run.

3.1. Definitions

We identify three different types of intermediaries.

- **Traditional intermediaries** are firms that provide matching services for buyers and suppliers in a traditional market. IT can support relationships these intermediaries have with suppliers (e.g., travel agents, who use CRSs) and customers (e.g., automated telephone banking systems that enable clients to check account balances).

- **EC-able intermediaries** conduct business using traditional methods and on-line, interactive EC applications. Able to participate in electronic and traditional commerce, these firms can afford to be opportunistic, biding their time to take advantage of profit-maximizing opportunities to innovate.

- **EC-only intermediaries** started their business in the electronic environment of the Internet. Customers almost always reach them by the Internet.

Changes that occur in firm strategy and industry structure are driven, in part, by which among the three kinds of intermediaries is present in the marketplace.

3.2. Temporal Evolution and the IDR Cycle

Evolution of firm strategy in the presence of EC innovations occurs in distinct phases – **intermediation**, **disintermediation** and **reintermediation** – and is likely to affect the overall evolution of an industry’s structure over time. Firms in the *first phase* typically pursue pure electronic intermediation strategies: they identify a product or service gap that no traditional provider currently fills. Then, through technological innovation, they work to create value in the marketplace by delivering something that has not been available before.

In the *second phase*, as these EC-only intermediaries attract customers, their next logical strategic step is to disintermediate traditional middlemen, if they exist, and capture broader market share. They may also choose to voluntarily disintermediate themselves. This is possible if EC-only intermediaries realize that they can become IT providers to the industry. They must recognize that they can earn higher profits as providers of a technological solution or an emerging IT standard than if they were to remain brokers in the new electronic market.

Finally, in the *third phase*, the focus shifts to firms whose business interests may have been harmed by the new entrants to the marketplace. One expects to observe traditional intermediaries fight back, becoming EC-able, moving to reintermediate themselves in their marketplace. We call this evolution the **disintermediation-reintermediation cycle (IDR cycle)** because the process occurs repeatedly as new EC innovations emerge. Change in the market structure of an industry will be characterized by the outcomes of the changes in firm strategies that we describe here.

3.3. Intermediaries in the IDR Cycle

Most situations in which disintermediation occurs involve *multiple traditional intermediaries* (see Fig. 3.1.) that mediate the transaction process between buyers and suppliers. Established firms can be disintermediated players who make EC innovations.

The EC-only players will either try to maintain their position or transform themselves into IT providers, and into information and physical products aggregators. At first, intermediation is likely to be detrimental to traditional intermediaries close to customers (Intermediary 1 in Fig. 3.1.). However, as traditional middlemen fight back and reintermediate, EC-only players are likely to threaten other intermediaries (Intermediary 2 in Fig. 3.1.).

**Example 1: Bill Payment.** The bill payment process traditionally involves the customer's and supplier's banks,

![Figure 3.1. IDR Cycle with Multiple Traditional Intermediaries](image-url)

**Key:** Weak link: — Strong link: — IT provider link: —
and an electronic data and funds transfer network. Traditional intermediaries of this network emerge as EC-only intermediaries in the first phase. They do this either alone (e.g., Checkfree), or in partnership with an IT provider (e.g., MSFDC, First Data Corp. and Microsoft’s joint venture). However, banks deliver observable value to the customers: they integrate most all their customer's financial transactions. Customers have more incentive to access the on-line financial services of their bank, than to go to a web-site specialized only in one type of service.

In the second phase, EC-only intermediaries become primarily IT providers for banks and become data aggregators for all the market participants. Because most customer bills are local, it may be more efficient for data aggregating intermediaries to organize into a network of competing intermediaries, rather than to capture the whole national market.

Example 2: On-line Bookselling. Another illustration of the IDR cycle with multiple traditional intermediaries involves on-line bookstores. Amazon.Com, an Internet start-up that enjoyed short-lived first mover advantage, lost out when a traditional player, Barnes and Noble, developed its own web site with similar functionality. Due to its large share of traditional consumers and its specialized assets (physical store outlets), Barnes and Noble is able to appropriate benefits of EC innovation in a manner that Amazon.Com cannot match. Moreover, Barnes and Noble is able to leverage its resources and imitate quickly other innovations that any EC-only competitor may introduce (e.g., an affiliate network).

Because Amazon.Com cannot compete based solely on the merits of its technological innovations, it plans to develop co-specialized assets such as warehouses, which will enable it to compete against wholesalers [9]. Amazon.Com has also started to expand its business and offer not only books, but also CDs for on-line purchase. These decisions are likely to start other IDR cycles involving wholesalers and music stores as traditional intermediaries, and possibly lead to value-added EC alliances that Amazon.Com is uniquely positioned to create.

3.4. Analysis: Conditions for Reintermediation

We have seen that firms’ strategies are affected as EC innovations are implemented. This evolution has a pattern and follows a sequence of intermediation, disintermediation and reintermediation. The causes for the first two have received attention in prior research, so we focus here only on the conditions for reintermediation.

We hypothesize that reintermediation is explained by:

- weak appropriability of EC innovations;
- ownership of co-specialized assets for both market intermediation and EC innovations; and,
- economies of scale.

Weak Appropriability. Reintermediation occurs when EC innovations can be imitated. An innovation’s weak appropriability is amplified by the independence of an EC application from the customers' installed software and hardware base. As long as the EC application resides on the intermediary's web site, the switching costs are almost zero; the same browser software can be used to access any web site. So IT reliance cannot be a source of sustained competitive advantage for firms doing business on the Internet. This seems true for first movers (such as Amazon.Com and Microsoft Expedia), who implemented EC innovations but had limited industry expertise.

Ownership of Co-Specialized Assets. If traditional intermediaries exist in the value chain, they often have significant co-specialized assets: their expertise, customer base and relationships with suppliers. EC-only intermediaries will find it hard to acquire the necessary co-specialized assets. For example, as long as profitability is uncertain, suppliers will stay with traditional intermediaries for distribution. Another reason that prevents a supplier from developing a strong relationship with an EC-only intermediary is the supplier's desire to handle electronic orders from customers by itself, with no intermediary. Also, some co-specialized assets that traditional intermediaries own were built over time and have path dependencies [28]. Thus, it is unlikely that an EC-only intermediary can develop them quickly.

However, traditional intermediaries cannot afford to rely too much on their pre-existing assets and not adopt the EC innovations. If they want to stay in the game, they need to start the reintermediation process as quickly as possible, to prevent EC-only intermediaries from acquiring or building their own co-specialized assets.

Even if a traditional intermediary has all the necessary co-specialized assets for market intermediation, it still may lack those related to the development of EC applications. Here, EC technology investments become a strategic necessity. To prepare for reintermediation, a firm can either develop the requisite technologies by itself or acquire them from existing providers. In both cases, the idea is to acquire co-specialized assets necessary to appropriate benefits in an electronic market.

Economies of Scale. EC-only intermediaries will not succeed if they cannot achieve economies of scale. However, many traditional intermediaries will have achieved economies of scale in traditional markets, and can use this advantage to leverage their reintermediation attempt. Thus, the problem is one of effectively implementing an EC solution.

Our framework also suggests an important way that an EC-only intermediary can maintain its first mover competitive advantage. It can become a technology provider for traditional intermediaries, if they exist, or for suppliers and customers, if the traditional market structure does not contain intermediaries. These EC-only intermediaries may welcome reintermediation. As long
as they can benefit from it and not be disintermediated themselves. Here, broad agreement in the marketplace about whether a technology provider’s solutions will reach critical mass or become a de facto standard is critical.

4. Framework Application

Does the IDR cycle characterize changes in firm strategy for Internet commerce? Do conditions that we set out for reintermediation explain observed changes? We investigate these questions for the managed corporate travel industry. This provides a starting point for analyzing the variant forms of disintermediation, and the responses that we see in a marketplace characterized by innovation and business reinvigoration.

4.1. EC Innovations in the Travel Industry

Travel and entertainment are known to be the third largest controllable expense in a large business organization. At present about 89% of U.S. companies rely on one or more travel firms to manage these expenses [1]. Because of low satisfaction levels with basic travel agency services and escalating travel costs, 72% of U.S. companies have switched travel agencies in the last two to three years [1]. As a result, both travel agencies and their customers have a vested interest in finding new ways of improving service quality and customer satisfaction.

One of the technological innovations that can help in achieving this goal is on-line booking via the Internet, without the intervention of a human travel agent [14]. Forrester Research predicts that in the year 2001, on-line corporate travel ticketing will represent 15% of the total sales [16]. According to industry participants and observers who have conducted preliminary in-house studies, this innovation can decrease dramatically transaction costs [8]. Savings for managed corporate accounts offer strong incentives for the emergence of EC-only travel agents, and for implementation of automated booking systems by traditional travel agents themselves. Corporate customers also indicate a strong desire for on-line travel and expense management tools [1].

Although all of the top five corporate travel agencies have developed or purchased on-line travel management systems (see Table 4.1), their use is not yet widespread.

At present, about 75% of all on-line revenues come from bookings done on only six sites: American Express Interactive (AXI), Microsoft Expedia, the Internet Travel Network (ITN), PreviewTravel, Travelocity and TravelWeb [29]. Among these, just one, AXI, is owned by a traditional travel firm, American Express Travel Related Services. Clearly, significant opportunities for joint ventures and acquisitions must still exist.

As leaders in the industry recognize, EC innovations will enable (and most probably, require) corporate travel agencies to reinvent themselves. Travis Tanner, president and CEO of Carlson Wagonlit Travel, the second largest US travel agency, comments: “Our client companies no longer want, or need, a travel agency. They want a travel partner — a company that can help them create business solutions leading to shareholder value” [25]. If Tanner is correct, the real challenge lies in making sense of the current landscape of the corporate travel industry and assessing how the various trends associated with EC innovations will bring new, but predictable industry and strategy transformation.

4.2. Temporal Analysis: Changing Firm Strategy

The IDR cycle can describe changes in firm-level strategies as new on-line competitors emerge in the corporate travel industry. The key industry players can be mapped to the roles identified in our framework: companies having travel management needs (Customers); airline, hotel and car rental companies (Suppliers); travel agencies (Intermediary 1); and CRSs (Intermediary 2).

As traditional firms change their strategies for competing with the on-line players, they appear likely to follow the IDR cycle. Thus the traditional travel agents – including some of the biggest names in the business – may find themselves disintermediated at first. However, they are in a defensible position: they have the means to fight back and reintermediate themselves. At the same time, they can consolidate their position as providers of value-added services for corporate clients.

Industry Timeline. The timeline in Table 4.2 illustrates this point. We selected five representative firms active in Internet bookings. These include two EC-only intermediaries and technology providers (ITN and Microsoft), a CRS (Sabre), and the two largest

<table>
<thead>
<tr>
<th>Travel Firm Name</th>
<th>On-line Products (Source)</th>
<th>% Business Travel</th>
<th>1997 Air Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Express</td>
<td>AXI (Microsoft)</td>
<td>N/A</td>
<td>$7.9 billion</td>
</tr>
<tr>
<td>Carlson Wagonlit Travel</td>
<td>SoloAct (Sabre BTS, others)</td>
<td>70%</td>
<td>$3.2 billion</td>
</tr>
<tr>
<td>BTI Americas</td>
<td>Portico (proprietary, Sabre BTS)</td>
<td>75%</td>
<td>$2.1 billion</td>
</tr>
<tr>
<td>Rosenbluth Travel</td>
<td>E-Res (proprietary, Sabre BTS)</td>
<td>95%</td>
<td>$2.1 billion</td>
</tr>
<tr>
<td>Maritz Travel</td>
<td>Multi-CRS system (proprietary, Sabre BTS)</td>
<td>95%</td>
<td>$1.3 billion</td>
</tr>
</tbody>
</table>

Table 4.1. Top Five United States Travel Agencies and Their On-line Travel Products
<table>
<thead>
<tr>
<th>Company</th>
<th>Timeline of Events</th>
</tr>
</thead>
</table>
| ITN                                      | • 2Q95: Started offering on-line airline bookings.  
• 1Q96: Deployed a private label reservation system for American Express Travel Related Services  
• 2Q96: Added on-line car and hotel reservations. Deployed booking system for Charles Schwab's in-house travel agency.  
• 3Q96: Deployed reservation system for Stanford University. Launched booking product for corporate clients.  
• 4Q96: Offered access to all four major CRSs. Deployed a reservation system for Global Discount Travel Services.  
• 1Q97: Released low-fare search module for corporate travel.  
• 2Q97: Partnered with Worldview Systems Corp. to offer travel content. Added CNN Interactive, WorldBank as clients.  
• 3Q97: Started sharing products with Pegasus Systems, a provider of global hotel distribution technology solutions.  
• 1Q98: Deployed booking system for United Airlines. Added Chevron Corporation to its client list. |
| Microsoft Expedia                        | • 4Q95: Started the development of a front-end on-line booking application.  
• 3Q96: Entered partnership with American Express.  
• 4Q96: Launched the Expedia on-line reservation site.  
• 1Q97: Developed booking site for Northwest Airlines.  
• 2Q97: Unveiled AXI, a business travel product developed together with American Express.  
• 4Q97: Announced agreement to use Pegasus Systems' hotel reservation processing services.  
• 1Q98: Announced co-branding agreements with web sites participating in Expedia Associates Program. |
| Sabre                                    | • 2Q95: Announced intention to develop on-line booking products.  
• 3Q95: Deployed Travelocity on-line travel reservation system.  
• 3Q96: Started developing corporate travel management software suite, Sabre BTS.  
• 3Q97: Deployed Sabre BTS for Charles Schwab, Maritz Travel.  
| American Express Travel Related Services | • 1Q95: Launched interactive travel service on America On-line.  
• 4Q95: Started offering a prototype email-based booking system and the ITN private-label booking product.  
• 3Q96: Announced alliance with Microsoft for providing on-line travel services.  
• 2Q97: Started beta-testing of AXI on-line reservation system, developed in partnership with Microsoft.  
• 3Q98: Launched an updated version of AXI. Announced 100 corporate users for AXI. |
| Carlson Wagonlit Travel                  | • 2Q95: Introduced email-based reservation product.  
• 3Q95: Offered hotel directory in electronic format to corporate clients.  
• 2Q96: Began marketing ActOne, a suite of integrated travel management applications.  
• 3Q97: Teamed up with Captura Software to upgrade expense management software included in ActOne.  
• 1Q98: Started offering Sabre BTS to its corporate customers.  
• 2Q98: Started offering two additional self-booking systems to its customers: E-travel (in North America) and KDS (in Europe). |

Table 4.2. Corporate travel industry timeline
U.S. travel agencies (American Express Travel Related Services and Carlson Wagonlit Travel).

The first EC-only player in the corporate travel industry was ITN, which began to offer an on-line booking system in July 1995. ITN aimed to lead in the on-line products market. Major travel agencies were already testing versions of desktop products or travel services based on electronic mail. However, these products still required intervention of a travel agent to search for flights and make the reservation. Only ITN’s innovation enabled travelers to connect directly to a CRS, and search and book flights in real time. Since its first intermediating in 1995, ITN pursued a strategy of continuous innovation, by improving and expanding its products. ITN grew its customer base, established connections to major CRSs, and formed alliances with SystemOne/Amadeus and Galileo, to build interactive travel products. These partnerships are attempts to acquire co-specialized resources: supplier relationships.

Indeed, if ITN is able to offer seamless integration with various CRSs, it will gain competitive advantage over other players who provide connections to only one CRS. ITN also positioned itself early on as an IT provider, offering private-label reservation systems to travel agencies and corporate travel departments. As ITN expanded its customer base, it found itself unable to provide all the services required by corporate clients. As a result, ITN’s clients needed to rely on traditional travel agencies for everything except on-line booking. ITN’s strategy was interesting: it sent reservations for ticketing to a customer’s preferred travel agency, charging the agency for its electronic brokerage services! So along with driving more customer traffic through its web site, ITN was also costing traditional travel agency electronic brokerage fees. Given their market power, traditional travel agencies could not have been completely disintermediated, but they felt that an EC-only intermediary such as ITN could weaken their customer relationships. It became clear: competing agencies would be weakened if they did not invest in on-line travel ITs.

**Reintermediation Strategies.** The timeline also enables us to identify various reintermediation strategies. An alliancing reintermediation strategy involves a decision to develop all the necessary EC applications jointly with only one technology provider. For example, American Express Travel Related Services adopted this approach. In early 1996, it acquired a private-label reservation system from ITN. This partnership did not last long though. As American Express realized, sustainable competitive advantage could not be won by using a product that ITN was offering to any travel agency. So, in late 1996, American Express secured an exclusivity agreement for a partnership with Microsoft, and started developing its own travel and expense management system. This agreement enabled American Express to acquire the most needed IT assets and combine them with its own industry expertise assets for assuring the success of its on-line product, AXI.

By contrast, in early 1998, Carlson Wagonlit Travel adopted the strategy of portfolio partnering, the decision to work with a number of technology providers, each responsible for developing one component of the EC solution. In addition, it also decided to work with several self-bookng tool providers (Sabre BTS, E-travel and KDS), thus being able to better respond to its customer needs. This strategy also enables Carlson Wagonlit Travel to gain access to more varied technologies. Keeping few providers encourages responsiveness and innovation.

The actions of two other players, Microsoft and Sabre, are also relevant. They illustrate the roles of strategies involving technological focus, market timing and pre-existing industry expertise. By competing with ITN, the first mover, these players have created a favorable environment for reintermediation. Microsoft and Sabre both had significant systems development experience, and it was not hard for them to build systems that imitated ITN’s travel management products – once they decided to focus on doing it. Microsoft acted opportunistically, timing the market. It waited to determine that large revenues could be made in the on-line arena, and only then offered its services directly to customers (through its travel agency, Expedia), intermediaries (American Express) and suppliers (Northwest Airlines).

Sabre, an experienced travel industry provider, entered the interactive travel services market with a suite of products called Sabre Business Travel Solutions targeted to travel agencies and clients. One of Sabre’s advantages, which is now paying off, was its significant experience with the major CRSs used by U.S. travel agencies. Sabre and Microsoft are similar in that they have quickly overcome their late entrant disadvantage. Both have begun to attract some of ITN’s former clients. In fact, Sabre’s success is remarkable: it now provides the on-line booking and expense management technology for four out of the five largest U.S. travel agencies [22].

As the timeline shows, ITN was always the innovator that triggered the IDR cycle of intermediation, disintermediation and reintermediation. However, ITN never had enough power or industry experience to cause complete disintermediation of the traditional travel agencies we analyzed here. Instead, these traditional intermediaries seem to be able to reintermediate successfully once they form alliances with powerful technology providers.

**4.3. Discussion and Interpretation**

Our framework identifies three reasons why the first mover in EC innovations often cannot sustain its competitive advantage. It illustrates why traditional
intermediaries are very likely to establish themselves as EC-able intermediaries. We next show why the framework explains managed corporate travel competition.

First, the innovation of the first on-line mover can be imitated easily by either technology providers (e.g., Microsoft, the developer of Expedia) or CRSs (e.g., Sabre, the developer of Travelocity and easySabre). The benefits of this innovation are weakly appropriable: EC-only travel agents provide only basic services, such as search and booking, sometimes relying on traditional travel agencies to complete bookings and deliver paper tickets.

Second, EC-only agencies do not possess the co-specialized assets that will enable them to integrate travel data from on-line and traditional bookings, or to negotiate effectively with suppliers. Relying on others for reservation and ticketing results in an incompletely automated business process; this guarantees that shortcomings in the perceived value will be understood by customers who sign on for such a service. This exposes on-line travel agencies to emergent competitive disadvantages, especially in comparison to traditional travel agencies. The latter, in addition to their travel reporting and management expertise, can develop or acquire technological assets for on-line booking and potentially offer fully integrated services to their customers. Now, all five top travel agencies offer various on-line travel and expense management tools, so no significant competitive advantage can be gained from being an on-line vendor. (See Table 4.1.)

Third, EC-only travel agencies are unlikely to lure a sufficient number of clients to use only on-line services and, therefore, may be unable to achieve sufficient economies of scale. Only big, traditional players (e.g., Rosenbluth Travel, Carlson Wagonlit Travel and American Express Travel Related Services) have the power to test their innovations on a large enough scale to hope to achieve critical mass in the marketplace. (Interestingly, this is precisely what we see in other rapidly developing Internet businesses: electronic brokerage services, electronic bill payment and presentment services, and initial public offerings of stock and electronic auctions on the Internet.)

For example, the total number of corporate clients that book through ITN is much lower than that of American Express, the largest U.S. travel agency. Seventy clients already use American Express’ on-line services, and almost 200 are predicted to book on-line by the end of 1998 [18, 30]. Moreover, nothing prevents some of an EC-only intermediary’s clients to switch to other on-line travel services providers. For example, Charles Schwab began phasing out the ITN travel management system in favor of Sabre BTS, after only one year of use.

5. Conclusions

IT innovations in electronic markets have become an important element in the competitive environment of various industries. We emphasized the need to analyze the long run impact of such innovations on firm-level competitive strategy and on the evolution of industry structure. We proposed the IDR cycle as a general, industry-independent explanatory and predictive mechanism that aids our understanding of why and how changes in industry structure occur in the presence of EC innovations. This enabled us to argue that traditional non-technological middlemen will be able to reintermediate in the long run, and even strengthen their position in the market as EC-able intermediaries.

We explained reintermediation in terms of characteristics of technological innovation, such as appropriability, and characteristics of the intermediary itself. Most importantly, the types of assets that the intermediary already has in a traditional market, and its ability to reconfigure them in the EC-enabled marketplace will determine how well the reintermediation will succeed.

Our framework identifies the role for agreements between traditional intermediaries and IT providers that lead to reintermediation. These agreements are usually non-exclusive on both sides, thus creating the potential for a complex industry structure. In accordance with the move-to-the-middle hypothesis, these non-exclusivity agreements are an outcome of a rapidly changing technological environment in which no player can depend on only one IT provider without bearing undue technological risk. Another explanation for such agreements involves non-contractible investments made by IT providers in innovation and information sharing. They are important for firms that want to succeed in the managed corporate travel business.

Finally, applying our IDR cycle framework to the managed corporate travel industry helped us explain and interpret its observed evolution. It also supported our predictions about how reintermediation of the traditional travel agencies will occur. In contrast to existing literature, we distinguished between short and long run scenarios. As a result, we predicted that EC-only travel agencies soon will become the IT providers of choice for traditional travel agencies. This will enable such firms as ITN and Travelocity to maximize the appropriability of business value for their on-line booking innovations, by placing them in proximity to the co-specialized assets of the traditional travel agencies.

Given the exploratory nature of our present attempt to build theory, a single industry evaluative case study seemed appropriate for starters. Additional insights can be obtained from studying whether systemic innovations can be described using our cycle of intermediation,
disintermediation and reintermediation. Another avenue for research is to an empirical test across multiple industries to determine the relevance of the IDR cycle. This will provide evidence about recurring patterns of market evolution and competitive behavior in various industries. Equally valuable would be to develop analytical models of market entry by a disintermediating firm or a reintermediating firm.

Bibliography


Acknowledgements

We wish to thank Carlson Wagonlit Travel in the Twin Cities of Minnesota for ongoing sponsorship of our research on electronic commerce in the travel industry. Special thanks are due to Robin Schleien, Darcy Howley, Vince Cook and Nick Dzandzara for their inputs and ideas. Any errors of fact and interpretation are the sole responsibility of the authors.