Intermediaries and Cybermediaries: A Continuing Role for Mediating Players in the Electronic Marketplace

Mitra Barun Sarkar  
Michigan State University  
East Lansing, MI USA  
sarkarmi@pilot.msu.edu

Brian Butler  
Carnegie Mellon University  
Pittsburgh, PA USA  
bb26+@andrew.cmu.edu

Charles Steinfield  
Michigan State University  
East Lansing, MI USA  
steinfield@tc.msu.edu

Abstract

The advent of nearly ubiquitous information infrastructures has led many to predict that one effect of electronic markets will be the bypassing of intermediaries in electronic markets. The ability of electronic networks to reduce transaction costs is the theoretical cause of this supposed trend. We suggest that, on the contrary, not only is it likely that widely available information infrastructures will reinforce the position of traditional intermediaries, but that networks will also promote the growth of a new generation of intermediaries. These new players, which we term "Cybermediaries," are organizations that perform the mediating tasks in the world of electronic commerce. We illustrate that the case for the elimination of intermediaries in the move to create direct producer-consumer links is based on questionable assumptions. We then examine functions of intermediaries that are not easily absorbed by producers. We describe some of the new forms of cybermediaries, noting the new needs that electronic commerce imposes on producers and consumers. We note that using a rational, economic logic rooted in transaction cost theory, it is equally plausible to conclude that more, rather than fewer intermediaries will be involved in electronic markets. Finally, we briefly highlight several social and institutional factors that also may mitigate against the elimination of intermediaries. This broader perspective of the role of intermediaries in the exchange process calls for incorporating consumer-centric and institutional perspectives into the discussion of the evolution of electronic market structures.
Introduction

The increasing popularity of the Internet has generated significant interest in the development of electronic retail commerce. As the fledgling form of the NII, the Internet has the potential to evolve into an interconnected marketplace, facilitating the exchange of a wide variety of products and services. The development of this electronic marketplace implies that there will be significant changes in the economics of marketing channels and the organizational structure of distribution, which will lead to a redefinition of industry value systems. In short, the development of an advanced NII may support a radical restructuring of the processes and organizations that connect manufacturers and consumers.

We specifically focus on one key set of issues: How will an ubiquitously interconnected data network infrastructure affect the role of the intermediary in the exchange process between producers and consumers? Are they, as current notions espouse, a threatened breed? Or is it likely that the mediating function will be present in the electronic marketplace, with traditional intermediaries benefiting from network-based transactions to solidify their role in exchange, and with new types of network-based entities which function as "Cybermediaries?" Although we agree that direct producer-consumer linkages will proliferate over the NII, we disagree that this will cause intermediaries to disappear. Analysis of the nature of consumer needs, particularly in a computer-mediated environment, suggests that there will be a role for both traditional and new types of intermediaries that broker the relationship between producers and consumers.

The paper is organized in the following sections. First, we review the arguments made by those who believe that traditional intermediaries, such as wholesalers and retailers, will be bypassed in an electronic marketplace. Section two critiques this logic, showing that bypass of intermediaries is just one of several plausible outcomes, with an increasing presence of intermediaries emerging as one likely scenario. The third section examines the functions fulfilled by intermediaries, to increase understanding of how value chain systems are likely to evolve. We then consider a number of new types of intermediaries who are likely to become increasingly important in electronic market environments. The fifth section briefly complements the preceding analysis by recognizing that institutional, social, and subjective factors can also inhibit the elimination of intermediaries. We conclude that in the emerging electronic marketplace, new and existing intermediaries will continue to operate, and provide benefits to consumers and producers.

Arguments for the Elimination of Intermediaries

It has been well established that information technology (IT) has had significant effects on organizations. Companies are changing the way they operate due to significant reductions in the cost of obtaining, processing, and transmitting information (Malone, Yates, & Benjamin, 1987; Porter & Millar, 1985; Rockart & Scott Morton, 1993). Information links make radical changes possible in management practices, which in turn affect market structures and firm configurations. On the one hand, data processing and telecommunications infrastructure have supported the development of extended global enterprises (Harasim, 1993; Konsynski & Karimi, 1993). On the other hand, electronic information links have also resulted in de-integration of industrial structures, thus resulting in "virtual corporations" or "networked organizations" (Rheingold, 1993; Rockart & Scott Morton, 1993). While it is not the purpose of the paper to consider these phenomena in any depth, it is important to note that new information technologies are causing fundamental changes in management practices, philosophies, organizations and industrial structures. This implies continuous evolution of a firm's value chain, as IT transforms not only the way activities are performed, but also the nature of linkages between them (Porter & Millar, 1985). The system of interdependent activities through which a firm produces a good or service and distributes it to the final consumer, which Porter (1985) terms the value system, is in an ongoing state of flux in part due to advancements in
information technology.

These radical transformations of organizations and markets have taken place in an era where electronic links mainly existed in the domain of businesses. Interorganizational information systems, electronic data interchange networks, shared databases, and other forms of electronic links mainly connected firms. Today, on the other hand, information infrastructures are extending to reach individual consumers. The potential for transformations in the value systems of many firms is thus far greater now than it has been in the past, as technology begins to enable producers to directly interact with consumers. One fundamental question, therefore, is to what extent producing organizations would take advantage of direct electronic links with consumers, and whether in the process, intermediaries will be eliminated from the value system.

It has been noted that intermediaries add significant costs to the value chain, which are reflected in a higher final price of products or services. As illustrated by Benjamin and Wigand (1995), in the high-quality shirts market, it would be possible to reduce the retail price by almost 62% if wholesalers and retailers could be eliminated from the traditional value chain. Thus, it has been argued that in their search for competitive advantages, manufacturing firms will use the NII to bypass the organizations that currently play an intermediary role in the traditional value system. An Office of Technology Assessment report (1994) suggests that when the network serves as the market, it will facilitate direct exchange between producers and consumers. Benjamin and Wigand (1995) suggest that all intermediaries between the manufacturer and the consumer may be threatened, as the NII reaches out to the consumer.

The essential argument is that the use of IT allows manufacturers to internalize activities that have been traditionally performed by intermediaries. Producers will "capture value" and in the resultant redistribution of profits along the value system, traditional intermediaries will disappear. Benjamin and Wigand (1995) argue that whether the transaction takes place directly between manufacturers and consumers, or through a third-party market maker, both manufacturers and consumers will benefit: the manufacturers will get to retain a higher portion of surplus value or profits that are generated along the value system, while the consumers will benefit from both a larger choice and lower prices. In other words, the network's ability to support direct exchanges efficiently will increase both producer and consumer welfare. Thus, it is predicted that manufacturers will sell directly to consumers, and consumers will prefer to buy directly from manufacturers.

Critiquing the Threatened Intermediaries Hypothesis

The above-stated argument, which we will refer to as the threatened intermediaries hypothesis, is based on a transaction cost analysis of the effects of the NII. We now briefly review the logic of transaction cost theory as it might apply to intermediation, and illustrate that it can just as plausibly be used to predict the opposite conclusion: that an NII might promote greater rather than less reliance on intermediaries.

Transaction cost theory (TCT) (Coase, 1937; Williamson, 1975) is an often-employed framework in this context since it focuses on a firm's choice between internalized, vertically integrated structures, and the use of external market agents for carrying out activities that constitute its value system. In the context of channel decisions, it can be used to articulate the decision process whereby firms either "make or buy" (Rangan, Menezes, & Maier, 1992) an intermediary function; that is, whether the firm decides to internalize the channel activity (or sub-activities) within its organizational boundaries, or whether it chooses to rely on the market.

According to TCT, a firm has two options for organizing its economic activities: an internal hierarchical structure where it integrates the activity into its management structure, or a market-like relationship with external firms (Williamson, 1975). When the market mechanism is at work, the flow of materials and services takes the form of external transactions and is coordinated by market
forces. Later researchers have extended the scope of TCT to include quasi-hierarchical and quasi-market structures as alternate governance forms that a firm can opt for (Gulati, 1993). However, the basic concept remains the same: a firm decides to rely on a governance form that is closer to the hierarchical end of the spectrum than the market end when the transaction costs that arise from market coordination outweigh production cost benefits which arise from economies of scale and scope that come with outsourcing to specialized firms.

Malone, Yates, and Benjamin (1987) were among the first to link TCT to electronic communication, illustrating how electronic networks can lower the costs of transactions and influence the formation of both electronic markets and electronic hierarchies. More efficient transactions help firms reduce the costs of coordination, which are defined as the transaction costs of all the information processing necessary to coordinate the work of people and machines that perform the primary processes ...[and] take into account the costs of gathering information, negotiating contracts and protecting against the risks of "opportunistic bargaining" (p. 485). In the view of Malone and colleagues, then, networks encourage vertical de-integration of firms by lowering the costs of "buying" compared to "making" in-house (Malone, 1987; Malone et al., 1987; Malone et al., 1989).

In the context of channel decisions, we see then that TCT can be applied in two ways. Proponents of the threatened intermediaries hypothesis argue that a ubiquitous network (the NII), by extending into consumers' homes, lowers the transaction costs producers incur when marketing directly to end consumers. Paradoxically, the same theory can also be used to suggest that producers will outsource intermediary functions, resulting in a greater reliance on intermediaries. Reduced coordination costs imply an "unbundling" of functions, making it easier and more efficient to buy value chain functions rather than to make them inhouse.

One way of resolving this paradox is to examine in more detail the assumptions on which the threatened intermediary hypothesis rests. For the purposes of this paper we will consider a simple situation, described below, focusing on the possible transactions between a producer, a consumer, and an intermediary (Figure 1).

Figure 1.
Possible Transactions Between Producers, Consumers, and Intermediaries, Where P = Producer, C = Consumer, I = Intermediary, and T1, T2, and T3 = Transaction costs

In this scenario we will, like Benjamin and Wigand (1995), assume that the NII results in a reduction in transaction costs. However, we will consider and challenge the following assumptions that are present in the prior work on electronic commerce.

**Assumption 1.** The availability of an NII will reduce all transaction costs to zero (i.e. become insignificant).

**Assumption 2.** Transactions are atomic (i.e. unitary, and not further decomposable into smaller units).

Assumption number 1, that all transaction costs will tend to zero, is problematic. On one level, it is intuitively difficult to accept the idea that the costs of transferring goods from one party to another will drop that much for the majority of goods. More significantly, as suggested by our paradox above, the same theory predicts the evolution of "network" organizations when transaction costs

http://www.ascusc.org/jcmc/vol1/issue3/sarkar.html 11/10/01
approach zero. If the producer becomes a network organization, then it is quite likely that market coordination services, along with many other services, are likely to be provided by individuals and organizations that are not tightly integrated with the core of the firm. In such a situation, with more and more services outsourced, there will be more, rather than fewer intermediaries in a value system.

However, consider the following version of assumption 1:

**Assumption 1'.** The availability of an NII will force all transaction costs to approach a non-zero minimum ($T^*$).

This provides a basis for the threatened intermediaries hypothesis. If $T_1$, $T_2$, and $T_3$ represent the pre-NII transaction costs and $T'_1$, $T'_2$ and $T'_3$ represent the post-NII transaction costs then the threatened intermediaries hypothesis can be stated in the following terms.

In the pre-NII world the intermediary exists, hence assuming there is a competitive market for intermediary services:

$$T_1 > T_2 + T_3$$

On the other hand, in the post NII world, the transaction costs all reach the theoretical minimum. Thus, $T'_1 = T'_2 = T'_3 = T^*$. So:

$$T^* = T'_1$$

$$T'_2 + T'_3 = 2T^*$$

**hence $T'_1 < T'_2 + T'_3$**

That is, in the post-NII world the intermediary will be eliminated and the cost savings will be passed on to either the producer or the consumer.

However, within assumption 1' is a claim that, on the basis of currently available evidence, is difficult to believe. That is, assumption 1' states that ALL transactions will approach the same minimum $T^*$. If this is relaxed so that different classes of transactions are affected in different ways (assumption 1'') then a very different situation emerges.

**Figure 2**

*Four Outcomes Possible When The Availability of an NII Differentially Impacts The Costs of*
Transactions Between Producers and Consumers (T1), Producers and Intermediaries (T2), and Intermediaries and Consumers (T3).

If \( T_1' = T_1^* \), \( T_2' = T_2^* \), and \( T_3' = T_3^* \) where \( T_1^* \) is not equal to \( T_2^* \) which is not equal to \( T_3^* \) then the four outcomes depicted in Figure 2 are possible in the post-NII world (Figure 2). The threatened intermediaries scenario (2) is only one of the possibilities predicted on the basis of assumption 1''. Other possibilities which are usually not explicitly considered by the prior electronic commerce work are (1) and (4) in which the NII has the effect of reinforcing the existing direct market or channeled structures. Network-based transactions reinforce an existing channel structure (scenario 4) when firms use the NII to supplement the economies of scale, scope and knowledge that arise as a result of the physical technologies involved. The current best example of this is Walmart, a firm which uses an information infrastructure to drastically reduce the producer-intermediary transaction costs and leverage the distribution and real-estate that is required for distribution to individual consumers. Scenario 4 may also arise when the network permits existing intermediaries to create economies of scale, scope, and knowledge that arise for supporting information or risk management services. Examples here include credit card companies who might use an NII to offer money-back guarantees for purchases made over the network. An interesting scenario is, however, (3), where the NII makes it efficient to use a new network-based intermediary in place of former direct linkages. It is here where cybermediaries come into existence as a result of the availability of the NII. These firms apply the NII to reduce the producer-> intermediary or the intermediary-> consumer transaction costs. The existence of cybermediaries is consistent with traditional marketing theory, which views intermediaries as organizations that support exchanges between producers and consumers, increasing the efficiency of the exchange process by aggregating transactions to create economies of scale and scope. (Alderson, 1954; Coyle & Andraski, 1990). Cybermediaries are simply intermediaries which take advantage of the NII to create these economies of scale and scope. In a later section, we provide examples of emerging types of cybermediaries.

Thus we see that relaxing assumption 1 allows us to derive a number of possible outcomes for the structure of value systems in an electronic commerce environment. In the next section, we take up the second assumption, that all transactions are atomic or best viewed as a collection of actions which are tightly bound.

Towards a Broader View of Intermediary Functions

Rather than the highly abstracted view of intermediaries as providing a single unified service known as "coordination," the roles of intermediaries must be considered in more detail in order to understand the impact of the NII. Assumption 2, which characterizes intermediaries' roles generally as coordination, results in an aggregation and potentially an underestimation of the services they provide. Moreover, it contributes to the misleading conclusion that all aspects of exchange supports will be affected equally by an NII.

In traditional consumer markets, intermediaries provide a variety of explicit and implicit services for their customers. For example, by patronizing a store, consumers implicitly choose a bundle of services for which they pay through the retailer's margin. Intermediary functions that benefit consumers include assistance in search and evaluation, needs assessment and product matching, risk reduction, and product distribution/delivery. Intermediary functions that benefit producers include creating and disseminating product information and creating product awareness, influencing consumer purchases, providing customer information, reducing exposure to risk, and reducing costs of distribution through transaction scale economies. Finally, we note that often producer and consumer interests are in conflict, suggesting that another intermediary function is to balance and integrate these sometimes competing needs.

Search and Evaluation. A consumer choosing a specialty store over a department store implicitly chooses between two alternative search and evaluation criteria. In either case the consumer is
delegating some of the product search process to the retail intermediary. Intermediaries also provide quality control and product evaluation. Importantly, this may not mean providing a high level of quality, but rather providing an appropriate level and definition of quality. Thus, the quality of the goods expected at a flea market, a discount store, and a specialty clothing boutique is significantly different. Product evaluations can also be provided by specialized intermediaries, such as Consumer Reports and Better Business Bureau. However, retail intermediaries design the type of the search and evaluation services that will be offered to consumers by choosing the product mix and focus.

**Needs Assessment and Product Matching.** In many cases it is not reasonable to assume that individual consumers possess the knowledge needed to assess their needs reliably and identify the products which will efficiently meet those needs. Therefore, intermediaries can provide a valuable service by helping customers determine their needs. For example, many hardware stores explicitly present themselves as providers of "helpful hardware people" who help customers determine which products they need. By providing information, not just about the product, but also about the usefulness of the product, and even explicit expert assistance for identifying consumers’ needs, intermediaries provide consumers with needs assessment and product matching services.

**Customer Risk Management.** Consumers do not always have perfect information, and hence they may purchase products that do not meet their needs. Consequently, in any retail transaction the consumer faces a certain amount of risk. This risk may be the result of either consumer need uncertainty, communication failure regarding the characteristics of the product, or the intentional or accidental failure of the producer to provide an adequate product. Another service that many intermediaries provide is related to the management of this risk. By providing consumers with the option to return faulty products or providing additional warranties, intermediaries reduce the consumers’ exposure to the risk associated with producer error. If the consumer has the option to return products for any reason, the intermediary further reduces the customer's exposure to the risk associated with customer failure to assess needs accurately and match them to the characteristics of the product. Thus, by choosing an intermediary that provides these services, customers are implicitly purchasing insurance from the intermediary.

**Product Distribution.** Many intermediaries play an important role in the production, packaging, and distribution of goods. Distribution is a critical factor in determining the value of many consumer goods. For example, the value of a gallon of gasoline one hundred miles from a consumer's home and the value of a gallon of gasoline one mile from the consumer's home are significantly different, primarily because of the distribution services provided. Distribution service firms, such as Federal Express, are a prime example of how information technology has begun to make it economical to provide services independently that historically have been provided by integrated retail intermediaries.

In addition to providing services for consumers, intermediaries also provide a variety of services for producers. In choosing marketing channels, producers choose the bundle of services provided by the intermediaries involved. Several functions of intermediaries purchased by producers are briefly highlighted below.

**Product Information Dissemination.** One class of producer services provided by intermediaries relates to informing consumers about the existence and characteristics of products. Producers rely on a variety of intermediaries, including traditional retail stores, catalog and mail-order houses, advertising agencies, and media outlets to inform consumers. In some cases, such as traditional retail intermediaries, these information services are tightly tied to other services, such as distribution, and in other cases the information services and distribution may be provided by independent intermediaries.

**Purchase Influence.** Ultimately producers are not interested only in providing information for consumers; they are interested in selling products. Thus, in addition to information services,
producers also value services related to influencing consumer purchase choices. There are many ways that intermediaries can influence consumers' purchasing behavior. Product placement by intermediaries can influence product choice, as can explicit advice from sales agents. Commission compensation schemes, shelf space payments, and special discounts are all ways that producers purchase influence services from intermediaries.

**Provision of Customer Information.** In addition to information and influence services, intermediaries also provide valuable information about customers. Increased use of IT in the retail industry has contributed to an increase in the importance of retailers and credit companies as sources of consumer information. This information, which is also collected by specialized intermediaries, such as market research firms, is used by producers to evaluate new products and plan production of existing products. Even in cases where producers do not receive explicit consumer information, retail intermediaries implicitly provide information processing services by aggregating demand information from a variety of local markets.

**Producer Risk Management.** Like consumers, producers face risks when engaging in commercial transactions. Intermediaries provide services that enable producers to manage their exposure to such risks as consumer fraud and theft. This risk, which has received a great deal of attention in recent discussions of Internet commerce, is a problem that traditionally has been managed by retail and credit intermediaries. In the past, these intermediaries have provided systems and policies for limiting this risk. When it could not be eliminated, it was the intermediaries that managed direct exposure to that risk.

In addition to consumer crime, there is also risk associated with consumer and producer error. In addition to bearing much of that risk for the consumer, intermediaries insulate producers from this risk as well. The extent of this risk-sharing between producer and intermediaries depends on their contractual agreements. In some cases, intermediaries purchase goods outright, thus assuming the bulk of the risk involved. However, the agreements may stipulate that under certain conditions the producer must accept the return of goods, thus sharing the risks with the intermediaries. Risk-management services are provided by intermediaries to help producers and consumers manage risks present in any retail exchange.

**Transaction Economies of Scale.** As with production of goods, transaction services provided by intermediaries are subject to economies of scale, which are often achieved through the use of IT. Federal Express and international consumer credit firms are two examples of specialized intermediaries which extensively use IT to gain economies of scale in the provision of certain transaction services.

**Integration of Consumer and Producer Needs.** Intermediaries must deal with problems that arise when consumer needs conflict with the needs of producers. In a competitive environment a successful integrated intermediary must provide a bundle of services that balances the needs of consumers and producers and is acceptable to both. For example, a producer may wish to inform consumers about the existence of a good while consumers would rather it were filtered out as part of the product search and evaluation process.

It is often the responsibility of intermediaries to balance these needs. In fact it is our contention that when a competitive market for intermediary services exists, an important service provided by a successful intermediary is the integration of the producer and consumer needs. For example, there is a view that would argue that the ideal market for consumers is one in which the consumers are given complete, objective information about the products. However, for the producers, who prefer to influence the consumer's purchase decision, the best market is one in which they can provide biased information about their products. Thus there is a tension between the consumer's needs and the producer's needs. Because providing information is costly there is an issue of whose needs should be served by that information. Though it is sometimes determined by law, the majority of the time the
retail intermediaries, through their displays and packaging, determine a balance between the consumer's need for information and a producer's need for influence. Ultimately, in a competitive market for intermediary services, a firm which does not successfully balance these needs will lose their suppliers and/or their customers.

The preceding discussion makes clear that the coordination role played by intermediaries in the exchange process is, in fact, a multifaceted set of functions, which are likely to be quite differentially impacted by any electronic service provided over a network. Network-based services may do a particularly good job in facilitating product search, but are less well equipped to offer product distribution (except of course for information and software products). The point here is some functions will be provided by new, network-based intermediaries.

Cybermediaries: New Network-Based Intermediaries

Gateways. We did not include physical infrastructure intermediaries here, since they are not necessarily cybermediaries.

Directories. Directory service intermediaries help consumers find producers by categorizing Web sites and providing structured menus to facilitate navigation. At present these are usually free services to consumers, but in the future may extract fees. There are three types of directory services. General directories (e.g. Yahoo and EINet Galaxy) provide a general index of a large variety of different sites. There is typically some scheme for organizing (and choosing) the sites that will be included. These sites often support browsing as well as keyword searches of the index. Commercial directories (e.g., The All-Internet Shopping Directory) focus on providing indices of commercial sites on the Web. These sites do not provide infrastructure or development services for producers, but simply act as a directory of externally existing commercial sites. Commercial directories may also provide information about a specific commercial area, often listing firms that do not even have Web sites (e.g. The Embroidery Directory). These intermediaries are equivalent to publishers of paper-based industry guides. Finally, specialized directories (e.g. Jeff Frohwein's ISDN Technical Page) are topic oriented, often even as simple as a single page created by an individual interested in a topic. These pages may play a role in supporting commercial exchanges by providing a consumer with technical and evaluative information about a good or a particular producer, in addition to simple search support.

Search Services. In contrast to the directories, search sites (e.g. Lycos and Infoseek) provide users with the capabilities for conducting keyword searches of extensive databases of Web sites/pages. Typically, search sites do not allow browsing of the database directly, and they are rarely topic specific. Because there is an attempt at completeness they may allow individuals to explicitly add entries to the database.

Malls. The term virtual mall or internet mall is often used to refer to any site that has more than two commercial sites linked to it. Hence, many of the commercial directories described above are actually called "malls". However, we are explicitly distinguishing a directory service, which indexes external commercial sites, from an intermediary, that, like traditional physical malls, provides infrastructure for the producer/retailer in return for a fee (perhaps rent or percentage of sales). Often these malls have a geographic focus (e.g., The Aloha Mall or The Alaskan Mall). They may target a particular type of producer/retailer (e.g., The Asian American Mall). Or they may be composed of variety of "stores", selling a variety of products (e.g., The Pinnacle Mall or Cybersuperstores). Malls often will provide links to stores other than the stores that are explicitly part of the mall. However, a key difference between a mall and a directory is the source of their income. A mall derives its income from its "renters;" a directory does not have renters and so will typically have some type of advertising for sale.

Publishers. Publisher Web sites are "traffic generators" that offer content of interest to consumers
They may appear more or less to be online newspapers or magazines. Currently the largest traffic generators are the directories and search sites described above. The high traffic generators that are content providers are often preexisting publishers. Publishers become intermediaries when they offer links to producers through advertising or product listings related to their content. An example of a primarily electronic content provider with very strategically placed ads is GNN. They may only charge flat fees for advertising, or may extract a transaction fee for sales.

**Virtual Resellers.** The malls described above provide cyber-infrastructure, but they do not own inventory or sell products directly. In contrast, virtual resellers do. These are intermediaries that exist to sell to consumers. Often these resellers are product-focused (e.g., The Christmas Shoppe, International Shopping Club, and America's Shirt and Tie). They are able to obtain products directly from manufacturers, who may hesitate to go directly to consumers for fear of alienating retailers upon which they depend. It thus represents a good example of where the NII permits lower priced goods to be offered to consumers, but through efficient intermediaries rather than producer-to-consumer direct links.

**Web Site Evaluators.** Consumers may be directed to a producer's site via a new type of site that offers some form of evaluation, which may help to reduce some of the risk to consumers (e.g., Point Communications (Top 5% of the Web) and GNN). Sometimes the evaluations are based on frequency of access, while other times they are an explicit review of the sites. They may extract value by charging a fee to producers to be evaluated, or may charge consumers for their service. Also some of the directories and search sites described above are beginning to provide evaluations of sites.

**Auditors.** Auditors are not direct intermediaries, but serve the same functions as audience measurement services in traditional media. We mention them only to point out that Internet commerce requires many of the same supplementary services that facilitate traditional commercial activity. Advertisers require information on the usage rates associated with Web advertising vehicles, as well as credible information on audience characteristics. Nielsen, a firm that dominates audience measurement services in other media, is quickly moving to capture a preeminent position in Web measurement as well through their Nielsen Interactive Services subsidiary. Another player is The Internet Audit Bureau.

**Forums, Fan Clubs, and User Groups.** Sites such as these are also not necessarily direct intermediaries, but can play a large role in facilitating customer-producer feedback and supporting market research. The best examples of these groups are product-related discussion groups and lists. They may be created specifically to connect the producer with consumers (as is the case for many of the user forums on the commercial on-line services) or they may be created by users to communicate with each other (as is the case for most of the discussion lists and newsgroups on the Internet).

**Financial Intermediaries.** Any form of electronic commerce will require some means of making or authorizing payments from buyer to seller. Payment systems will take many forms (see Crede, this issue) including credit authorization by major credit card companies such as Visa or Mastercard, electronic equivalents to writing checks (Checkfree), paying in cash (Digicash), and sending secure electronic mail authorizing a payment (First Virtual). In an electronic commerce environment, these financial intermediaries may extract per transaction fees in order to absorb some of the risk associated with money flows.

**Spot Market Makers and Barter Networks.** Given the speed with which electronic networks can inform buyers about products for sale, as well as those with goods to sell about buyers looking for particular products, it is likely that spot markets will emerge. When people exchange one good or service for another, instead of paying with money, it is a barter network. A new set of intermediaries, similar to auction houses, flea market owners, and commodities exchanges may arise to capitalize on this network opportunity. Some thriving examples of where the network helps create a spot market
are the news groups that act as markets for various products. Often, on college campuses or local Freenets there are local market groups. There are also specialized groups (computer equipment, trading cards, etc.), and those that deal with used goods. In addition to the newsgroup-based facilities there are also many Web based services, including Barter Net and netTrader.

**Intelligent Agents.** Intelligent agents are often discussed as the answer to user problems with navigation in the chaos of the Internet. Agents are software programs that begin with some preliminary search criteria from users, but that also learn from past user behavior to help optimize searches. They may appear as a new intermediary service that buyers "hire" when in need of a particular good or service. One intelligent agent site known as BargainFinder has been created by Andersen Consulting for research purposes, although it is not yet particularly powerful, and is actually more of a focused search tool.

**Institutional, Social and Subjective Factors and Intermediation**

Up to this point, our discussion has mainly illustrated how rational producers may still choose to acquire intermediary services. This section moves away from "producer-centric" explanations of industry structures, noting that the degree to which producers are able to impose their desired channel structures is dependent upon a host of factors, including such institutional factors as the power of other trading partners, the demands and needs of consumers, and subjectively rational factors (Gomes-Casseres, 1994). We do not develop this area in depth, but merely identify several non-economic reasons for expecting the continued role of intermediaries in electronic commerce.

Due to institutional factors, a single firm may be unable to impose a producer-centric structure on its markets. This may occur because the proposed structure is not in the best interests of other market institutions, who would be threatened by any change. The power of intermediaries, often stemming from their current direct relationship to end customers, may force producers to abandon efforts to fully bypass intermediaries for fear of causing retaliation. This may be a transitory phenomenon, given that at present only a small fraction of potential customers use electronic commerce platforms such as the World Wide Web. Hence, a firm would be risking loss of the majority of their business for the small fraction that actually uses the NII to obtain their product, should intermediaries retaliate. This exact situation occurred on an earlier NII, the French Teletel system. This system, available throughout France to nearly all businesses and some 40% of households (Streeter, Kraut, Lucas, & Caby, 1993), was used by Air France to permit online seat reservations. They planned to distribute to corporate customers an actual ticket printer, allowing their largest customers to completely bypass travel agencies and avoid the commissions associated with airline ticketing. However, they decided against this plan for fear that agents would retaliate and give more business to competing airlines. Instead, anyone who made reservations via their Minitel terminal still had to use traditional agencies to obtain their actual ticket (Steinfield, Caby, & Vialle, 1993).

As suggested in the section above on the functional role of intermediaries, a number of customer requirements are satisfied by intermediaries. Consumers may choose to continue to use traditional and/or online intermediaries precisely because the intermediary represents multiple producers. When no single producer could be expected to meet the full range of customer needs (e.g., no airline flies to all places at times convenient to all customers), then an intermediary service will be more desirable. In addition, customers may trust the advice of an intermediary who represents multiple producers, since they would not have the same biases as the producer vis-a-vis their own product (although this can be manipulated by the relative profit margins associated with various producers' products). Finally, proponents of traditional, physical retail outlets are fond of pointing out the important social interaction and entertainment benefits associated with shopping. Hence, consumers may inhibit producers from abandoning traditional and online intermediaries who can better serve these needs.

Finally, sociologists and anthropologists have long recognized that economic activity is embedded in a social structure, and existing social relations influence patterns of economic exchange.
(Granovetter, 1985). Kinship or interpersonal relationships may influence firms to engage in trading relationships that from the viewpoint of an external observer appear to be economically inefficient. Yet, from a subjectively rational perspective, such trading relationships are either necessary given the norms of the community (e.g., when intermediaries are owned by members of the same family in some cultures), or are beneficial in the long term. For example, such relationships may imply high degrees of trust, which in turn may reduce transaction costs because expensive contractual or legal expenses to control opportunistic behavior can be avoided (Zucker, 1986).

**Conclusion**

Using economic, social, and institutional logic, we have argued against the notion that electronic commerce would result in a widespread restructuring of industry value systems in such a way that intermediation would no longer be prominent. Using basic transaction cost theory, we illustrate that the outcome of greater rather than less intermediation is just as plausible an outcome. Our analysis suggests that ubiquitous information infrastructures can lead to any of four possible outcomes: a reinforcement of existing direct producer-to-consumer links, the use of the network by producers to bypass intermediaries and link directly to consumers, a reinforcement of an existing intermediary structure, and the emergence of new network-based intermediaries. These outcomes follow from an assumption that the implementation of an NII will differentially impact upon the costs of transactions between producers, intermediaries, and consumers, and not reduce transaction costs to zero. We also show how an unbundling of intermediary functions suggests that the role of intermediaries is multifaceted, and all functions are not easily assumed by producers. Moreover, the NII enables new types of economies of scale, scope, and knowledge by intermediaries, leading to the rapid evolution of many new forms of cybermediaries who are interposing themselves between producers and consumers. Lastly, we highlight the role of relative power, consumer demand, and the social embeddedness of economic activity to add to the expectation that intermediation will remain a prominent structural feature of electronic marketplaces.

Of course, this does not mean that producers will forego the opportunity afforded by ubiquitous information infrastructures to differentiate their products, reach new customers, offer new services, and improve relationships with their customers. Although producing firms may tend to buy more channel functions from other firms, many are simultaneously establishing Web sites or linking with online service providers in order to create an electronic presence. Clearly some are attempts to market directly to consumers with limited intermediation (the network providers are always new intermediaries). However, in many cases, the electronic sites complement the existing physical distribution infrastructure, and serve to bring more people in to retail outlets. They also are electronic storefronts that rely on telecommunications infrastructure providers, as well as gateway, directory, search, mall, financial, and other cybermediaries. As likely, actual products and services to be sold in an electronic environment are provided through virtual resellers who can offer the important intermediary functions consumers and producers need.

**References**


