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Information Exchange in Electronic Markets: Implications for Market Structures

Varun Grover, Pradipkumar Ramanlal, and Albert H. Segars

ABSTRACT: The proliferation of information and of access to information made possible by the Internet has stimulated a fundamental rethinking of market structures. The greater information transparency between consumers and suppliers of products/services makes it necessary to answer such questions as how markets will emerge, how the balance of power between suppliers and buyers may shift, and who will benefit most from changing market structures. While electronic commerce via the Internet is a relatively new phenomenon, instantaneous information flow has long been an integral part of securities markets in the United States. The Securities Acts Amendments of 1975 explicitly recognized the emergence of consumers with instant access to alternative supplier information, and mandated movement toward a system that consolidated price and trading information. Viewing products markets through the frame of securities markets, this study examines the effects of information transparency on market structures. It finds that suppliers, for strategic reasons, may impede or selectively channel the flow of information in “free” market space. Depending on the markets and consumers involved, this can lead either to fragmentation or to integration.

KEY WORDS AND PHRASES: Electronic markets, market structure, market transparency, securities markets.

How will the ubiquitous Internet affect the balance of power between businesses and their customers? Will the market for electronic commerce be one where information is shared freely among all market participants? Will open competition without regulatory intervention result in market structures consistent with desirable public policy goals? Who will be the major beneficiaries of on-line trading, buyers or sellers? What types of market structures will prevail, a single consolidated Internet or multiple fragmented intranets? Will the new technology initiate a paradigm shift or bring incremental efficiency to conventional trading mechanisms? These issues are of the utmost concern for buyers and sellers as well as for the regulators who must referee their interactions as products and services move from traditional channels of distribution to the arena of electronic commerce.

Electronic commerce can affect the economy by increasing the size of markets and by facilitating a redistribution of wealth among their participants. While the former is desirable, the latter raises concern from a public policy perspective. Given the rapidly changing environment and the long-term implications, adopting a wait-and-see attitude is not enough. Instead, it is incumbent upon academics and practitioners to predict the likely evolutionary path of Internet-based technology, so that market participants and government regulators may take whatever preemptive measures are needed to ensure a desirable outcome.

To predict the course of this evolutionary process, it is essential to understand the nature of the technology involved and the motives of market par-
participants. The technology makes it possible for information available on the Internet to be accessed at little cost. As for participant motives, buyers wish to optimize utility, suppliers to maximize profit, and regulators to mold markets that are fair and competitive. The challenge is to predict how the interaction between technology and motives will influence market structure [4, 24].

The Internet is a complex phenomenon, and unique insight is needed to understand its implications for markets. Nonetheless, the underlying forces at play will influence market structure in ways consistent with enduring economic principles. An issue that is not so apparent, however, is whether electronic markets foster an environment consistent with the disparate objectives of the various participants. If the balance of power shifts to consumers, then regulatory intervention may be unnecessary. Conversely, should the balance of power shift to suppliers, then government intervention may be a necessary correcting force.

To determine how the emergence of electronic commerce may change the market’s structure, two aspects of information flow on the Internet are relevant: (1) the ability to access information on the Internet using powerful search engines, and (2) the strategic use of the Internet to selectively control the flow of information. The issue is one of balance between access and control. The first of these factors addresses many modes of low-cost access enjoyed by buyers in electronic markets. This access is empowered by Internet service providers, Web browsers, search engines, and computers [19]. The second factor addresses the selective control of information as a means to achieve strategic advantage [2, 20]. Suppliers achieve control when they accumulate customer profiles to facilitate targeted marketing but at the same time impede competition by only revealing selected information about their products. The latter of these two factors will play a critical role in determining the balance of power between buyers and sellers and whether governmental intervention is needed to ensure competitive markets.

The operations of U.S. securities markets illustrate how such forces may shape the structure of electronic markets, for the two markets are similar in many respects. The e-commerce market has three essential attributes that influence its structure: (1) low-cost technology that facilitates information access, (2) the disparate and conflicting objectives of buyers and sellers, and (3) the countervailing effects of access and control [22].

The same three attributes characterize securities markets in the United States. The counterpart of the Internet (which facilitates e-commerce) is the Intermarket Trading System (which facilitates securities trading). The backbone of both markets (i.e., the on-line linkages) serves the same purposes—providing instantaneous price and product/security information across different trading locales [23]. Rich theory has been developed to explain the dynamics of securities markets in the aftermath of the Securities Act Amendments of 1975, which led to the development of the Intermarket Trading Systems. The dynamics are complex, and in many instances market intervention has had unintended outcomes [14, 15, 18]. Using theoretical foundations developed for understanding securities markets, it is possible to elucidate the probable evolutionary path of e-commerce markets, the factors
that will influence the balance of power between buyers and sellers, and the market structure that is likely to prevail.

**Information Transparency and the Nature of Markets**

The central proposition of electronic markets is the free flow of price and product information among buyers and sellers [16]. Information flow is instantaneous, and markets are transparent [3, 13, 16]. This is the hallmark of on-line auctioneers like UBid. While the notion of electronic markets and information transparency on the Internet is relatively new in the realm of consumer goods and services, it has long been a part of securities markets such as the NYSE, AMEX, and NASDAQ, as well as the regional stock exchanges in the United States. The Securities Acts Amendments of 1975 mandate movement toward a consolidated market in which trading information and price quotes are shared freely on-line by the largest securities dealers and other market professionals, resulting in a single trading price across markets.

This market structure benefits investors, who can instantaneously check out the prices offered by many different securities dealers and then trade with the one who offers the best terms. Consolidation aggregates information, improves the quality of the market, and lowers trading costs [18]. Search costs are also lower, and this forces dealers to price securities competitively, which is a desirable public policy goal. In essence, the 1975 Amendments were designed to ensure favorable market conditions for buyers. The same promise and expectation is facilitated for e-commerce by the Internet [13].

The discussion so far has highlighted the first of the three attributes of electronic markets: low-cost technology that facilitates information access. But is low-cost access enough to foster competition among suppliers in light of the second attribute: the disparate and conflicting objectives of buyers and sellers? Buyers favor competitive pricing, but sellers abhor it. While they cannot prevent buyers from using technology to obtain information, they can limit the amount of information available. This brings us to the third attribute: the countervailing effects of access and control. In other words, while buyers will attempt to access all available information about competing sellers on the network, sellers will use the very same network strategically to control the flow of information and impede competition.

As the foregoing indicates, there are impediments to market consolidation—that is, limits preventing buyers from freely obtaining all necessary information about sellers. The reason is simple: Information is costly—costly to sellers if they reveal it, and costly to buyers should they wish to acquire it. This implies that regulatory mandates to consolidate markets may be unsuccessful. The evidence from the securities industry is compelling. Blume and Goldstein find that specialists at the NYSE often list price quotes on the Intermarket Trading System that differ from the actual prices at which trades occur on the exchange floor [6]. The “improved” prices can be obtained through negotiations with a specialist, but are not available for trade by simply scanning the “free” information available on the network.
The reason the NYSE specialist controls the flow of pricing information is straightforward. The specialist invests considerable resources, relying on numerous sources of information, such as analyst recommendations, public announcements, and prevailing market conditions, to determine a fair price at which to trade. If this pricing information is then made freely available, via the Intermarket Trading System, to securities dealers at other exchanges, they can free-ride on the specialist’s effort by offering to trade on the same terms. This gamesmanship among dealers is driven largely by the desire to avoid the competitive outcome.

The implications for e-commerce on the Internet are obvious. Besides adopting competitive pricing strategies, a seller can either tailor its product to meet the needs of individual clients or make the product more complex to cloud comparative analysis, thus impeding competition and increasing profitability. In addition, suppliers can form alliances with Internet services providers like America Online and Internet portals like Yahoo to ensure that customers only have contact with “preferred” suppliers. These strategies limit consumer choice and permit suppliers to extract economic rents beyond what would be possible under pure competition. Strategies of this kind have long been established in securities markets. They include schemes like “payment-for-order-flow,” whereby small traders have to pay their brokerage firms to direct them to specific securities dealers in order to execute trades [10].

As all this suggests, attempts to consolidate markets by regulatory mandate will not succeed when the goals are inconsistent with the motives of buyers and sellers. On the other hand, failure to impose even minimal regulatory oversight may cause markets to fragment into intranets. This would seriously limit the availability of information, because information flow would be within but not across these subnets. If at all possible, the best course is to nurture an economic environment in which consolidation is compatible with individual objectives and regulatory goals. In that case, closed intranets will consolidate into an open Internet in a competitive environment without regulatory intervention [1, 2, 3, 11]. Knowing how to nurture such an environment is clearly of significance to regulators.

A Model for Electronic Markets

Several theories have been developed to explain the dynamics of stock markets in the aftermath of the Securities Acts Amendments, which led to the formation of an electronic-based stock-trading system. Corresponding to this is the trading system that has emerged for the products market via the Internet. Accordingly, insights drawn from theories pertaining to stock markets can be used to predict the likely dynamics of the market for electronic commerce.

Several models in the literature address multimarket trading as well as issues related to the consolidation/fragmentation of electronic markets. The ones that stand out were produced by Chowdhry and Nanda [7] and Bhushan [5], and more recently by Madhavan [15], and Pagano and Roell [18]. The current study draws on the most recent work of Hargis and Ramanlal [12]
and of Ramanlal, Hargis, and McDonald [21]. Their studies make up a two-
part series that provides a comprehensive model and rigorous analysis in-
corporating the three attributes discussed earlier: low-cost technology, con-
flicting objectives of buyers and sellers, and countervailing effects of ac-
cess and control.

The basic model is illustrated in Figure 1. There are two markets compet-
ing to attract three types of traders. Informed traders possess nonpublic in-
f ormation about the value of stocks and use it in making their trading de-
cisions. Institutional traders represent mutual funds and pension funds
that manage large stock positions for their clients. Finally, retail customers
are individual investors who trade smaller quantities. Retail customers trade
in specific markets either to raise cash to satisfy current needs or to save cash
for future needs. Institutional investors trade in both markets as part of the
stock-portfolio management process to ensure that they get the best price for
their trades. Informed investors trade strategically across the two markets,
using their private information about the value of stocks to maximize profit.
The sum of the trades from these three sources that are directed to each
market is called the order flow in that market. Over the long run, the net order
flow must average to zero as supply equals demand. In the short run, how-
ever, order flow imbalances may result, and these are held by dealers. Deal-
ers manage order imbalances by the prices they charge for securities. In
other words, dealers mediate trade among the three types of investors in
each market, and this mediation is facilitated by the prices they set for
stocks.

Aspects of this model are readily transferable to buying and selling in
electronic markets like the Internet. The two markets can be thought of as
competing intranets that wish to draw and hold customers. Information
within each intranet can be accessed freely, but information flow across
intranets is controlled. Retail customers bid for products and services as they
do for stocks. Institutional buyers are like wholesalers and other intermedi-
aries who trade across markets to obtain favorable terms for bulk purchases.
Informed traders are like sophisticated consumers who collect information
and assess price and value tradeoffs across complex products in different
markets. The intranets, like the auction sites on Yahoo, serve as dealerships
that facilitate trade between suppliers and consumers.

The most important aspect of the model is the extent to which the two
markets decide to freely share information. Of course, information will only
be shared if the individual markets derive some benefit from it. For stock
markets, the information relates to prices and trades. If both markets choose
to share information, then the price of a security is necessarily the same in
both markets. In essence, the market is consolidated. But if neither market is
willing to share information, then the same stocks may be traded in each at
different prices. In this case, the markets are fragmented. There are several
other possibilities, such as the case where one market reveals information
but the other market does not reciprocate, leading to partial integration. The
potential outcomes of consolidation and fragmentation apply equally to
markets for products and services. For example, intranets can exist as inde-
pendent networks with proprietary information, in essence fragmenting the
Internet. Conversely, the Internet may consolidate if incentives are such that information flows freely across intranets (see Figure 2).

It is apparent from Figure 2 that the interactions between the two markets can be formulated in terms of game theory. The key question is: What are the conditions under which each of the four scenarios in Figure 2 occurs? The motives and corresponding actions of the markets as they compete with each other will determine which scenario is eventually realized. More formally, the market structure that evolves, whether consolidated, fragmented, or partially integrated, will depend on the objectives of the counterparties and their corresponding optimal decisions about whether or not to reveal information.

The objectives of the counterparties can be varied and conflicting, driven by profit motives as well as by the desire to appease regulators so as to avoid government intervention. For stock markets, the motives of competing exchanges and government regulators can be found in the congressional mandates of 1975, discussed by Cohen et al. [9], O’Hara [17], and Blume and Goldstein [6]. Two of these objectives are especially relevant from the perspective of markets and regulators. Perhaps more important, they carry over directly to the electronic markets for goods and services [1, 8, 13].

Intranets that aspire to maximize profit will attempt to draw the largest group of customers. For securities markets, this corresponds to maximizing trading volume. Regulators, on the other hand, wish to ensure that customers obtain the best terms possible under competition. For securities markets, this corresponds to the market’s liquidity. If the public policy goal is at odds with the market’s goal, conflict arises, as it has for securities markets, and as it presumably will for e-commerce on the Internet. In that case, the challenge is to identify actions that policymakers may take to align these disparate objectives.

Figure 1. A Model of Inter-Market Transparency
Figure 2. Transparency and Market Structure

For simplicity, the discussion focuses on the results of the game in Figure 2, and their implications for the management of e-commerce on the Internet. The complete mathematical model and game-theoretic analysis leading to these results can be found in the works of Hargis and Ramanlal [12] and Ramanlal, Hargis, and McDonald [21].

The Competitive Dynamics of Markets

As has already been explained, the electronic trading system for securities is similar in many respects to the Internet for the trading of products and services. The different trading sites for securities can be thought of as intranets that are electronically interconnected to form a network not unlike the Internet. As the discussion of the competitive dynamics of markets moves forward, it is important to keep this similarity in focus. The parallels between the network for trading securities and the network for trading goods and services are detailed in Table 1.

Given the stock exchange’s objective of maximizing profit and increasing trading volume, and the regulatory goal of encouraging competition and improving the market’s liquidity, the degree of integration of the competing exchanges into a consolidated electronic market will depend on two primary factors: (1) the size of the exchanges, and (2) the importance of institutional versus retail trading. The first factor characterizes the relative market power of the competing intranets that will determine their respective abilities to garner market share. The second factor specifies the proportion of all customers who will limit their trading activities to specific intranets (retail traders) versus the proportion of buyers who are like wholesalers and other intermediaries in that they trade across intranets to obtain favorable terms for bulk purchases (institutional traders). Each market will decide, on the basis of these factors, whether the intranet should be proprietary or open (i.e., whether to reveal or not reveal information). These decisions, in turn, will determine the degree to which competing intranets will eventually integrate into a single electronic market.

The possible “states of nature” within market contexts as they are influenced by comparative versus disparate sizes of competing intranets (markets) and by the proportion of buyers who trade within intranets versus wholesalers who trade across intranets is summarized in Table 2.
### Legislative impetus

<table>
<thead>
<tr>
<th>Electronic market for securities</th>
<th>Electronic market for goods and services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Securities Acts Amendments of 1975, mandating electronic consolidation of price and trade information across different market sites</td>
<td>No current legislation to regulate Internet commerce</td>
</tr>
</tbody>
</table>

### Markets

<table>
<thead>
<tr>
<th>Technological facilitator</th>
<th>Intermediaries</th>
<th>Relative size of players</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermarket Trading System, INSTINET, SOES, and electronic order routing via the Internet</td>
<td>Exchanges, dealers, and brokers</td>
<td>Disparities in size of markets like NYSE relative to regional exchanges; and there are disparities in buying power of investors whether retail or institutional</td>
</tr>
</tbody>
</table>

### Market attributes

<table>
<thead>
<tr>
<th>Desirable market properties</th>
<th>Expectations on market quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-cost technology, conflicting objectives of buyers and sellers, countervailing effects of access and control</td>
<td>Consolidated, competitive, efficient markets</td>
</tr>
</tbody>
</table>

### Table 1. Market for Securities Versus Market for Goods and Services.

The logic behind these dynamics is detailed in the next section, and a context is provided for understanding how markets may strategically channel information to meet their objectives and sustain competitive advantage.

### Controlling Logic for the Market’s Dynamics

The controlling logic differs depending upon whether the objective to be satisfied improves the market's quality from the customer’s perspective (which is a regulatory goal) or draws the maximum number of customers to a specific trading location (consistent with the profit motives of businesses).
Table 2. Impact on Market Dynamics of Intranet and Consumer Attributes.

If both objectives can be satisfied concurrently, then conflict between businesses and regulators is removed. In that case, markets operate efficiently without regulatory intervention, which is clearly the preferred outcome.

As illustrated in Figure 3, a decision to reveal information related to the market’s size has two different effects on market quality. First, traders with nonpublic information who are better able to discern a security’s (product’s) value will trade more cautiously in Market 1 if they know that their information will ultimately be disclosed in Market 2. Their private information will be disclosed in Market 2 if it becomes apparent because of their trading activity in Market 1 and Market 1 then finds it in its best interest to reveal the information to Market 2. The trader with nonpublic information acts cautiously in Market 1 so that the benefit that can be derived from using this information in Market 2 will not be reduced, as may indeed occur if the information is revealed in Market 2 via Market 1. As a result, Market 1 becomes less susceptible to the problem of adverse selection, where the best values are picked off by discriminating consumers with nonpublic information, leaving lower-quality and higher-priced securities (products) to the lay person. With adverse selection reduced, Market 1 is able to offer better terms, on average, to all its customers. This increases the quality of Market 1. The beneficial effect of revelation for Market 1 will be stronger if Market 2 is larger, because the trader with nonpublic information will then care more about the profitable trading opportunities in the larger Market 2, and accordingly will trade even more cautiously in Market 1.

Second, revealing information to Market 2 improves the quality of that market as well, because the trader’s informational advantage with nonpublic information is reduced. The improvement in quality holds because adverse selection is reduced in Market 2, permitting it to also offer better terms, on average, to all its customers. These improved terms draw large institutional traders (wholesalers) to Market 2 who would otherwise trade in Market 1, thereby reducing the quality of Market 1. These two opposing effects are
MARKET 1 (Smaller) Reveals Information → MARKET 2 (Larger)

Traders with nonpublic information decrease trading activity so as to not spoil potential profits in Market 2

MARKET QUALITY ↑

More information available because Market 1 reveals

MARKET QUALITY ↑

Wholesalers are drawn to Market 2 because it is a large market whose quality has improved.

MARKET QUALITY ↓

Wholesalers are drawn to Market 2 because it is market whose quality has improved.

MARKET QUALITY ↑

Figure 3. Impact of Revelation on Market Quality

such that Market 1 will reveal information if it is much smaller, because the first effect will subdue the second. For Market 2, the effects of receiving information are predominantly positive, because the revealed information reduces the informational advantage of traders with nonpublic information. This explains the partial integration in the cases labeled (5) and (6) in Table 2.

The remaining question is, When do markets consolidate, and when do they fragment? Suppose Market 1 (although smaller than Market 2) is now so large that the relative sizes of the two opposing effects previously discussed are reversed. In other words, Market 1 will not reveal information because the second effect subdues the first. Now neither market wants to reveal, although if both agree to reveal and consolidation holds, each may well derive a positive benefit relative to the fragmented outcome because adverse selection by traders with nonpublic information is reduced. Thus the two markets are at an impasse. If both agree to reveal and neither has an incentive to deviate from the agreement, then consolidation holds. Conversely, fragmentation holds if either market decides to deviate from the agreement.

Thus the issue is reduced to which market deviates and under what conditions. The conditions must be such that a market by deviating can improve its quality beyond what could be attained through consolidation. This holds only if Market 2 is larger than Market 1, but according to the criteria laid down in the preceding discussion (pertaining to the two opposing effects of the decision to reveal on market quality), Market 1 cannot be so small that it reveals. In other words, the two markets must be marginally disparate in size. This result, however, is moderated by the amount of institutional (wholesale) trading, because as such trading increases, the larger Market 2 has a greater incentive to deviate because of the increased benefit it would derive from deviation (as noted in the discussion on the second of the two opposing effects). This explains the fragmentation and partial integration in the cases labeled (3) and (4) in Table 2. Of course, as the markets become similar in size, neither has an incentive to deviate, which explains why consolidation holds in the cases labeled (1) and (2) in Table 2.

To see why these results continue to hold if the objective is to increase market share or trading volume, one must recognize that increases in market quality engender market growth by luring additional customers into the market who otherwise would not enter. This is demonstrated by Hargis and...
Ramanlal [12]. Thus, the extent to which a policymaker’s objective of optimizing market quality may be aligned with the exchange’s objective of maximizing trading volume will depend on the market’s potential to grow. The potential clearly exists for the Internet and related forms of electronic commerce.

Summary of Market Dynamics

The analysis summarized above suggests that the interaction between markets and the type of integration that results is driven in large part by the asymmetric benefits of acquiring versus revealing information and how this asymmetry is tempered by the relative size of markets and the relative proportion of institutional/wholesale consumers. The coalescing of these aspects, in turn, is influenced by the objectives of regulators and businesses. Markets consolidate if they are similar in size. If disparate in size, they either fragment or partially integrate. For competition between the NYSE and the regional exchanges, this helps to explain why consolidation has been elusive despite the 1975 mandates of the Securities Acts Amendments. The NYSE, because it is so much larger, does better by not revealing information. Indeed, by posting quotes that hide effective spreads, trading interest on the NYSE is obscured to avoid free-riding on price discovery by dealers elsewhere. The same line of economic and competitive reason may become manifest for electronic markets of goods and services. Information created through transactions within a broad market will be guarded or strategically channeled by that market in order to avoid “informing” other markets at low cost. This would seem to be in direct opposition to the concept of an informationally transparent electronic market. Nonetheless, in the case of disparate markets, fragmentation or partial market integration seems to be the likely scenario, as evidenced by the evolution of information exchange within securities markets.

In addition, there is a dichotomous relation between acquiring and revealing information. In general, the incentive to acquire is greater than the incentive to reveal. Moreover, smaller markets have a greater incentive to reveal information than larger ones. The first of these dynamics flows from the notion that information is costly. Therefore, a market will attempt to gain economic rent from the revelation of information to other markets. In turn, markets will also attempt to lower their costs for acquiring information. Based on theory in the finance literature and the behavior of securities markets, smaller markets will always choose to reveal information to larger markets. This follows because informed traders, seeking to preserve profits in larger markets, will trade more cautiously in smaller ones, thereby improving the quality or liquidity of the smaller market. Improved market quality attracts more traders and more volume to the smaller market.

Market consolidation, together with the public policy goal of improved market quality and the profit-maximizing objective of businesses, may be achieved through competition if the following policies are instituted: (1) promote competition among markets of comparable size, (2) support cross-network comparisons of goods and services, and (3) create an environment that encourages additional customers to enter the market as its quality im-
proves. All three of these aspects are currently shaping electronic markets over the Internet, but the discussion in this paper also describes and demonstrates scenarios of market dynamics produced by strategic information channeling. In fact, information transparency between markets may emerge as a source of strategic advantage (or disadvantage) so profound that governmental intervention may be necessary to ensure compliance with the goals of public policy. Clearly, more research in this area is needed to create better understanding of how markets may evolve (or not evolve) due to strategic channeling of information. The framework and context developed in this paper are intended to provide a useful beginning for such efforts.

Final Thoughts

In many respects, electronic markets seem to be in a state of evolution that can be framed and defined by analyzing the dynamics of securities markets. Current market makers have been consolidating disparate markets of electronic commerce into large portals that in many ways resemble a “Wal-Mart of the Internet.” Examples of these emerging megamarkets include go.com, snap.com, family.com, and Yahoo.com. Within specific industries, sites like marshall.com (electronics) and chemconnect.com (industrial chemicals) are stunning examples of well-defined electronic markets within the overarching market structure of the Internet.

While portals provide a consistent, secure, and reliable experience for market participants, it is unclear whether the strategic channeling of information within and between markets will be beneficial for the consumer as well as consistent with fair competition. Any mechanism used to shape markets must be consistent with the objectives of the market in order to succeed. Therefore, if a market is compelled to reveal information, the usefulness of the revealed information is likely to be low if revelation is not consistent with the market’s objectives (e.g., the NYSE). Likewise, information transparency is likely to be high if integration is consistent with market objectives. Buyers and sellers must consider this dynamic when attempting to assess pricing information within and between markets. As electronic commerce continues to evolve, strategic information channeling is likely to become a force in determining the ultimate nature of competition between markets. Understanding how and why markets fragment or consolidate is an important step in effectively managing key aspects of increasingly virtual organizational and market structures.

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REFERENCES

2. Barua, A., Ravindran, S., and Whinston, A. Efficient selection of suppli-
21. Ramanlal, P.; Hargis, K.; and McDonald, C. When is market consolidation incentive compatible with exchange motive and regulatory goals?

For biographical sketches of Varun Grover and Albert H. Segars, see the Guest Editors' Introduction.