The Future of Virtual Malls

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The arrival of Web-based commerce is likely the beginning of a major transformation of the retail industry. Online sales have grown rapidly and, even starting from a low base, a large growth rate over enough years accumulates to a significant number. For example, in our earlier article we noted that Forrester projections suggest that Internet retail sales of goods that compete with malls will rise from $10 billion in 1999 to over $130 billion in 2004 (Hendershotts [2000]).[1] For now, however, the structure of online retail is highly uncertain.

A key to successful retailing has always been the clustering of stores. The economies to the shopping public of stores in close proximity are too great for it to be otherwise. A second key to modern retailing is the single ownership of a diverse shopping area. Single ownership allows the owner to rent discriminate across merchandise types—to charge tenants lower rents the greater their contribution to the economic success of the total entity. The benefit of single ownership largely explains the success of the original department stores, the development of shopping centers with numerous tenants in addition to anchor department store(s), and more recently the building of strip malls around large discounters. Other keys to modern retail's success have been a single property owner's ability to efficiently spread certain expenses across varying tenants, sophisticated systems for selecting and locating tenants in malls, and the innovative structure of retail leases.

The history of retail strongly suggests that online retail will exhibit clustering and single ownership. But exactly what do clustering and single ownership mean in the online environment, what is an anchor in this context, and what would be the optimal tenant mix and lease structure in a virtual mall? These questions must all be addressed before predicting the future of virtual malls. Thus we begin our analysis by reviewing the history of shopping in the U.S. and highlighting the keys to its success. Next, we examine the early development of online retail and discuss the parallels and differences between the evolution of online and "offline" (traditional) retail with a particular emphasis on Amazon.com. We then speculate on the future of virtual malls.

SHOPPING CENTERS TODAY

Stores in a shopping area are spread along a spectrum from major externality creators to major externality recipients, from major customer generators to major customer feeders. The net generators are those that attract numerous customers to the area: department stores and other high-profile specialty shops in major shopping malls and grocery stores, drug stores, and discounters in smaller centers. The net feeders are those smaller stores that largely feast on the traffic drawn by the net generators. In a rational world, the net feeders would make payments to the generators for the traffic produced. But this creates a con-

tracting nightmare. First, a large group of smaller stores needs to organize before they lease space and agree on a scheme of payments to a major generator. Second, the latter must agree to cooperate and all parties must purchase a large quantity of space simultaneously. Not surprisingly, this model is unheard of in the real world.

It is a fundamental economic principle that parties not being fully rewarded for their activities engage in fewer of these activities than would otherwise be the case. In an unorganized shopping area, traffic generators being unable to fully capture the fruits of their efforts will lead to less traffic (and, consequently, revenue) for the area as a whole. In the modern shopping center, the owner solves this problem by arranging a rent structure wherein the greatest net feeder pays the highest rent per unit space and the greatest net generator pays the lowest rent (Benjamin, Boyle, and Sirmans [1992]). In fact, some anchors pay zero or negative rents,[2] and anchors, on average, pay total rent per square foot of only about one-tenth that of nonanchors (Pashigian and Gould [1998]). By setting rental rates optimally, the manager is able to internalize the externalities created by the sales generators (Miceli and Sirmans [1995]).

Positive retail externalities are most pronounced for large, reputable department store anchors, which, consequently, receive significant lease concessions from landlords in the form of free pad sites, cash payments, and rent subsidies. In fact, Eppli and Shilling [1996] find the sales per square foot of nonanchor tenants are significantly higher in shopping centers that devote more space to anchors and that have higher image anchors. Using the Eppli and Shilling data, when we replace total anchor space (which might simply capture the impact of shopping center size) in their statistical model with total center size and the share of space allocated to anchors, both have statistically significant positive effects on nonanchor tenant sales. Thus, anchor stores' implicit value to other tenants appears to justify an explicit subsidy.

Because the most efficient way to cross-subsidize net generators is rent discrimination, a key to the modern shopping mall's success is a single manager/owner who has the necessary incentives to optimize the distribution of rents across different tenants. The mall owner is also able to obtain the optimal tenant mix and to generally run the center in a coherent profit-maximizing manner (Brueckner [1993] and Miceli and Sirmans [1995]). An end result of this maximization process is more shopping areas and greater competition. Consumers benefit from both greater convenience and lower prices.

With this structure in mind, it is instructive to review briefly the history of retail development to date. Originally, new local merchants located adjacent to existing merchants, attempting to draw off of existing consumer traffic and to minimize consumers' shopping effort. The original local merchants were "high touch" (good customer service) and high margin (to cover the cost of good service) retailers that necessarily carried high inventories. Department stores trumped local merchants by offering lower prices and compensating by turning inventory faster. Contributing to this was the advantage of offering everything under one roof ("you know you can find what you need at Sears"). In this way, the department stores were effectively mini-malls, with each goods category drawing off the traffic generated by others and sharp price discounts on some goods being used to attract customers to other goods as well. Department stores typically located in downtown shopping areas and replaced the weaker local merchants. The stronger locals thrived as "remoras" feeding off of the leftovers missed by the department store "sharks."

Malls mimic downtown shopping areas by offering department store anchors along with higher touch specialty stores to attract traffic. Malls generally trump traditional downtown shopping for two reasons. First, they are able to follow purchasing power into the suburbs, where housing costs were initially lower (and, later, quality-of-life was higher). Second, and more important, malls are owned by a single party, allowing rents to be set in line with tenants overall contribution to the profitability of the mall—low rents that subsidize high net sales generators and high rents that prevent small merchants from free-riding.[3]

Discounters/category killers have in turn, challenged traditional malls and their tenants. Discounters offer even lower prices and service levels, accepting lower margins but managing inventory extremely efficiently. This caused malls to move into higher touch goods (leading to fewer toy stores, book stores, etc., in malls). Interestingly, discounters often have a relationship with smaller merchants that harkens back to the earlier relationship between local merchants and department stores—smaller merchants cluster around the discounter in strip malls. Again, clustering and cross-subsidies play a crucial role in how the new retail innovation evolves.

It is generally accepted that online commerce will extend the evolution toward lower margins but higher inventory turnover another step (Christensen and Tedlow [2000]). The early evidence suggests that online retail's evolution is closely following past retail innovations: beginning by selling well-defined commodity goods (e.g., books) at low prices (and with low service levels), then moving into other

product areas. Whether online retailers will also cluster into virtual malls under single owners remains to be seen.

In addition to the benefits of single ownership, traditional mall owners also offer innovative lease structures that feature numerous landlord and tenant options. These structures contribute to the viability of modern shopping centers. The most prominent clause is that proscribing payment of overage rent; tenants annually pay a fraction ranging from 1% to 10% of the excess of sales over the threshold sales level set in the contract.[4] This is correctly viewed as an option of the landlord—rent will be changed only when it is to the landlord's advantage (when rents will rise because sales have increased). Logic suggests that the tenant is compensated (the landlord pays) for possible overage payments with a lower base rent (Hendershott and Ward [1999]). Tenants also often obtain a variety of options. The principal tenant options are to renew (extend) the lease, to cancel (shorten or "break") the lease (analogous to prepaying a mortgage), and to expand and/or contract the amount of space covered under the lease.

Options are written because they are expected "positive sum games," i.e., the expected costs to the party granting the option are less than the expected gains to the party receiving the option, allowing the party receiving the option to compensate fully the party giving the option. The most obvious source of a net gain, which in competitive markets is passed through to consumers in the form of lower prices, is an expected reduction in transactions costs broadly defined as payments to third parties. A tenant renewal option (either at the current market rent or at a prespecified rent), for example, reduces the probability of tenants paying moving costs and landlords bearing re-letting expenses.

Probably the primary source of net gain on lease options is a better alignment of incentives (the final source is the creation of superior risk sharing). An example is the option of either the tenant or the landlord to cancel the lease. For smaller tenants, it is almost standard for the landlord to be able to cancel the lease if the tenant does not reach a prespecified sales level or series of levels. This can encourage sales effort beyond that which the tenant would take on his own behalf, improving center profitability because other stores in the center benefit from the tenant's efforts. Of course, this is ultimately in each individual tenant's own interest because each is benefiting from the extra effort that the option induces from others.

Further, the cost to the tenant of being evicted when sales are low may not be that great. Possibly the tenant cancellation simply encourages tenants to do what they should do anyway.[5] On the other hand, high profile tenants sometimes receive an option to cancel if an anchor "goes dark," i.e., vacates. This cancellation option increases the landlord's incentive to do what is in the best interests of the center, i.e., keep anchors in place.

THE STRUCTURE OF VIRTUAL MALLS

Although the history of retail strongly suggests that online retail will exhibit clustering and single ownership, the virtual nature of e-commerce requires us to consider carefully exactly what clustering and single ownership mean in the online environment. In this section we ask a series of questions in the context of e-commerce: who is an anchor, who are the tenants, what is the form of rent payments, what are the major differences between online and offline retail, and do these differences give rise to a significant divergence between rental contracts in physical and virtual malls? To lend concreteness to the analysis, we address these questions with reference to the leading virtual retail site, Amazon.com.

Amazon, the company, could be viewed as the mall owner, with Amazon's website as the mall and Amazon, the book site, as the mall's anchor. Yahoo and AOL could also be viewed as mall owners, with their portals as the anchors and their shopping sites as malls. Any site with significant traffic is a potential anchor around which a virtual mall can be created.

Who are the tenants? Again, consider Amazon. It has a number of basic tenant classes in addition to the book site anchor. First, Amazon has strategic alliances with selected e-commerce companies known as the Amazon.com Commerce Network. These include Ashford.com (watches and other luxury goods), Audible (Internet-delivered spoken audio), Della.com (weddings), Drugstore.com (health, beauty, wellness, personal care, and pharmacy), Gear.com (sporting goods), Greenlight.com (auto purchasing in partnership with local dealerships), HomeGrocer.com (grocery-shopping and home-delivery service), Kozmo.com (one-hour delivery service for entertainment and convenience products), Living.com (home products and services), and Pets.com (pet products, information and services).

Second, through its "zShops" program Amazon allows any individual or business, its "niche tenants," to sell virtually anything to Amazon's 25 million customers. Shoppers can link to zShops from Amazon.com's home page and search for a specific item, such as a digital camera or an entire product category like clothing, books or toys. Shoppers can

pay zShops sellers directly or indirectly by utilizing Amazon's proprietary "one-click" payment feature, which keeps track of a shopper's credit-card number and address so the information doesn't have to be entered for each purchase.[6]

Third, the flexibility of online operations allows Amazon to offer co-branded stores, which is its latest class of tenant. A co-branded toy store has already been launched in conjunction with Toys-R-Us, and a co-branded baby products store is to open in early 2001. In this model the traditional retailer becomes mainly a merchandiser that pays Amazon both to offer their products on the Amazon.com site and to fill orders using Amazon's warehouses and fulfillment system. This is a closer relationship than being part of the Amazon Commerce Network because the partner/tenant is renting pieces of Amazon's virtual and physical space.

What form do rent payments take, and does this form allow rent discrimination? Amazon's strategic alliances with its Commerce-Network partners vary, but the contracts typically involve Amazon maintaining a significant equity stake in the partner (e.g., 28% in Drugstore.com and 17% in Ashford.com) and promoting the partners on Amazon's home page. In return, the partners make annual cash and stock payments to Amazon. Amazon's equity stakes produce payoffs similar to "overage" rent clauses: unless the partners prosper, Amazon will earn below market returns. zShops, on the other hand, pay Amazon a fixed fee, $9.99 monthly, along with a fraction of their revenues, up to 4.7%—overage rents with a sales threshold of zero. Like a traditional mall owner, Amazon benefits directly from its tenants' sales success. But unlike a traditional mall, Amazon has an always in-the-money overage clause—any gain or loss of sales has an immediate impact on the relationship's profitability. This closely aligns Amazon's incentives with those of its tenants. Like in a traditional mall, the Commerce-Network partners and zShops effectively subsidize the anchor—Amazon's book site pays no rent.

What are the major differences between online and offline retail and do they give rise to differences between rent contracts in physical and virtual malls? Store mix, location, configuration, and size are more easily managed in the virtual world than in a traditional mall. Adding or removing links or content on a Web page can be done quickly at low cost. The redesign or reorganization of a website is far simpler, cheaper, and quicker than trying to relocate physical stores within a traditional mall. These lower costs have allowed virtual malls to experiment and learn in ways that would be prohibitively expensive in the physical world, e.g., Amazon continuously modifies its site and has undergone several major redesigns. With near infinite virtual space, the cost of giving tenants expansion and contraction options is trivial (and almost meaningless).

If the mall can be so easily redesigned, tenants need to protect themselves from a virtual mall owner disadvantaging them (e.g., locating a competitor "adjacent" to them). Amazon's strategy of holding large equity stakes in major tenants and always having in-the-money overage rent options for zShops minimizes conflicting incentives. Amazon's strong incentives for its tenants to succeed make contractual guarantees, which would limit Amazon's flexibility in a fast-moving dynamic market, unnecessary. Further, with no space constraint there is no need for Amazon to charge high base rents to incentivize the tenants to maximize sales. If an online tenant is not producing sufficient sales, a competitor can be added to the site at negligible cost.

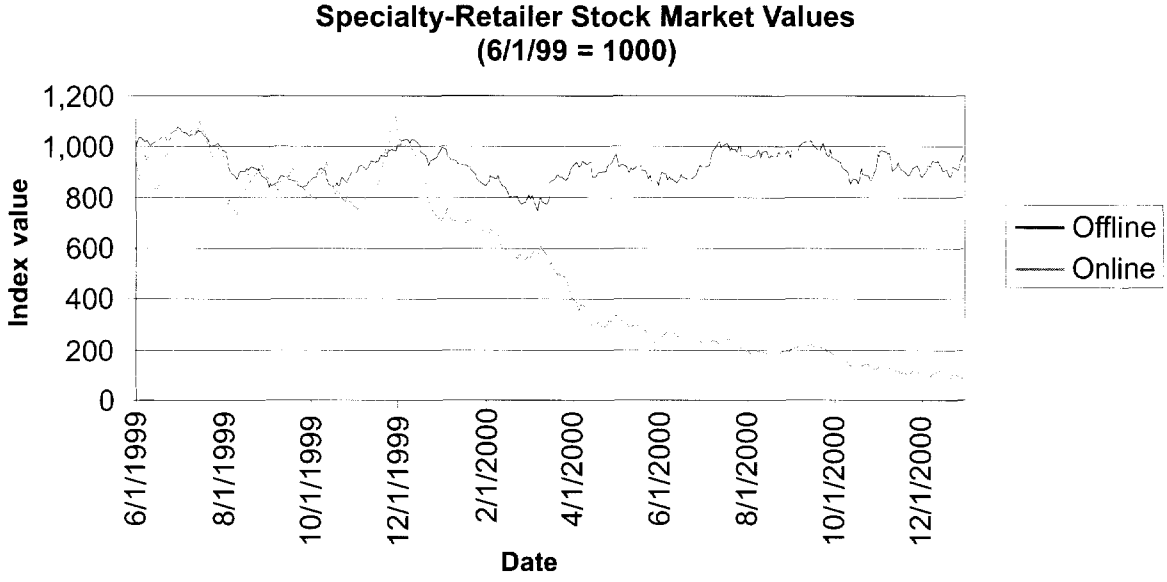
VIRTUAL MALLS TODAY

As we write this, the basic concept of virtual malls appears to be questionable. It is unclear whether pure online retailers, virtual malls' presumed tenants, will ever reach self-sustaining profitability. Certainly investors are unconvinced: The exhibit plots the value of an equally weighted online specialty-retail stock index consisting of CDnow (music), Beyond.com (software), Cyberian Outpost (electronics), eToys (toys and games), FashionMall.com (apparel), Drugstore.com (drugstore items), Garden.com (gardening supplies), Ashford.com (watches and other luxury items), VitaminShoppe.com (vitamins and nutritional supplements), Fogdog.com (sporting goods), VarsityBooks.com (textbooks), and Pets.com (pet supplies) between June 1, 1999 and the end of 2000.[7] For comparison purposes, a roughly analogous offline index consisting of Musicland, Borders, Radio Shack, Longs Drugs, Toys-R-Us, Hibbett Sporting Goods, Sunglass Hut, PetsMart, Williams-Sonoma, Zale Corp., The Gap, and Whole Foods Markets is also plotted. The collapse of online retail stocks is apparent: between December 1999 and the end of 2000, the online index fell over 90%. In contrast, the offline index was roughly flat over the same period. This suggests that online retailers face serious problems that go well beyond the general retail climate.[8]

E-tailers in virtual malls have done no better. Among Amazon's Commerce-Network tenants, Living.com filed for Chapter 11 bankruptcy on August 29, 2000, eliminating $145 million in agreed-upon payments that Amazon was to receive. Pets.com ceased operations on November 9, 2000. Gear.com is selling its inventory through Overstock.com. Della.com merged with WeddingChannel.com and Home-

EXHIBIT

Online and Offline Specialty-Retail Market Values Between June 1, 1999 and December 29, 2000



The online index includes CDnow, Beyond.com, Cyberian Outpost, eToys, and FashionMall.com, plus (as they begin trading) Drugstore.com, Garden.com, Ashford.com, VitaminShoppe.com, Fogdog.com, VarsityBooks.com, and Pets.com. The offline index consists of Musicland, Borders, Radio Shack, Longs Drugs, Toys-R-Us, Hibbett Sporting Goods, Sunglass Hut, PetsMart, Williams-Sonoma, Zale Corp., The Gap, and Whole Foods Markets.

Grocer.com has merged with WebVan. Neither merged entity is thriving: WeddingChannel.com has no immediate IPO prospects, and Webvan's stock price ended 2000 under $0.50. Kozmo.com has pulled its planned IPO, and Amazon's joint auction site with Sothebys closed on October 12, 2000. Moreover, remaining Amazon Commerce-Network tenants have renegotiated their payments to Amazon downward: Greenlight.com from $82.5 million over five years to $15.25 million over two years, and Drugstore.com (which has seen its stock price fall from a high of $55 to under $1) from $30 million a year to $15 million over two years. Interestingly, both companies have agreed to pay additional fees—similar to out-of-the-money overage rents—if their future sales exceed various thresholds (Windfield [2000]).

We offer three possible explanations of Amazon's dismal record as a mall owner. First, between 1995 and 1999, investor enthusiasm for Internet retailer stocks distorted the short-term incentives of both online and offline retailers. E-commerce companies were initially valued on revenues and growth, rather than profits. In response, many companies went public without viable business plans, and even those with reasonable long-term prospects strove to grow at the expense of working towards profitability. This resulted in customer acquisition costs that were much higher than those of traditional retailers. According to the Boston Consulting Group [1999, 2000], online retailers spent an average of $42 and $82 to acquire a customer in 1998 and 1999, respectively, in contrast to multichannel retailers spending $22 and $12, respectively. Additionally, when pure-play e-tailer stocks soared, many existing retailers were unable to resist creating independent pure-play Internet subsidiaries and distancing their new online entities from the traditional retail organizations in order to capture the "Internet premium."[9] Ironically, these pure-play subsidiaries appear to have "successfully" mimicked their start-up e-tail counterparts; for example, the stock of Barnes&Noble.com has dropped over 90% since the company's May 1999 IPO.

Second, early virtual malls have not organized their tenants optimally. In traditional malls, tenant selection and placement have developed into a science geared toward

maximizing the total value of the enterprise. A large part of this effort consists of creating an environment in which stores can feed off of each other. Not only do anchors feed niche tenants, anchors themselves feed off each other and the higher profile niche tenants. To date, virtual malls have not been organized in this way. Amazon has only one true anchor (the book site) and while Amazon shoppers are, for example, exposed to Ashford.com's offerings, visitors to Ashford's site are not exposed to Amazon's sites or the rest of the Amazon network. This greatly diminishes the value of clustering the stores. Additionally, Amazon's network has had voids in important retail areas, particularly apparel. There is no reason to believe that the tenant mix and organization, so crucial in traditional malls, will not play a vital role in virtual malls' success.

Third, to date, virtual malls have offered their clients limited value. Giving tenants a link on the anchor's Web page provides the tenants with exposure to potential customers, but little else. Traditional malls generally provide a bundle of services (e.g., marketing, janitorial, security, etc.) to exploit any economies of scale that are available within the overall enterprise. Although Amazon provides some limited infrastructure services to tenants (e.g., transaction processing using their "one-click" technology), this area remains largely unexploited.

THE FUTURE OF VIRTUAL MALLS

Although the present looks bleak, there are reasons to be optimistic about the future of online retail and possibly even virtual malls. Online sales continue to grow rapidly. BizRate.com reports that shoppers spent more than $6 billion online during the 2000 holiday season, an increase of 60% over 1999, and that online sales should approach $34 billion for all of 2000 (www.bizrate.com). The ongoing consolidation among online retailers should reduce pricing pressure, increasing margins. With investors switching focus from revenues to profits and the capital that has supported below-cost sales drying up, online retail margins should solidify further. Looking forward, potential virtual mall tenants should be much healthier than they are today.

The dot-com stock market crash has also reversed the trend toward online retail carve-outs, likely to the benefit of online retail's long-term viability. Some retailers (e.g., PetsMart and Vitamin Shoppe) are actually reabsorbing their pure-play e-tail creations. At the same time, some surviving online retailers have begun buying or opening physical stores (Clarkson [2000]). Catalogs have also become popular with online retailers.[10] This suggests that we may be on the cusp of healthy experimentation with creative multichannel retail that was effectively precluded in the past by an obsession with pure-play Internet retail.

What about tenant mix in the virtual mall? Better integration within virtual malls will allow customer traffic to flow seamlessly across the appropriate spectrum of stores, increasing the organization's value as each store can benefit from the activities of the others. Possibly partnerships with established retailers would greatly benefit virtual malls by quickly creating new anchors that can cover missing merchandise categories and provide well-known brand names. It is, however, unclear whether these established anchor retailers will gain sufficiently from being in, say, Amazon's virtual mall to sign up. Put another way, will virtual mall owners like Amazon be willing to subsidize these anchors sufficiently? If not, established retailers may link up to form their own virtual malls or aggregate online in cooperation with traditional mall owners.

And what additional services could virtual malls offer their tenants? A virtual mall's primary value is the aggregation of consumer traffic and buying opportunities. The value of this clustering can be enhanced by collecting and analyzing information from individual tenants in order to better understand buyers' preferences and increase the overall organization's sales. Cookies and other techniques to track customers' movement through the virtual mall together with purchase data can be used to optimize the mall's design for traffic and sales. This analysis can be used to offer customers personalized recommendations about new products, as is currently done by Amazon, or even to offer different customers different virtual malls. Using the past data on a customer's visits and purchases in the virtual mall (along with demographics and aggregate purchase data), the website could be personalized for each customer, allowing for optimized individualized store mixes and locations. Even more important, in the online world this information can be used in real time, e.g., a customer buying a book on plants could be offered the entrance to a store that sells gardening tools, perhaps along with a promotional discount. So not only can a virtual mall be personalized for each visitor, but the mall's very structure can be dynamically updated during the shopper's visit. Of course, virtual mall owners will have to be careful that these marketing efforts do not inconvenience or annoy their customers—it is far too easy for online customers to abandon a transaction if it becomes difficult.

A virtual mall can also offer infrastructure services. For example, offering something like Amazon's one-click check-

out for all stores within a virtual mall would simplify the shopping and checkout experience, reducing the loss of customers at the crucial final stages of a sale; the Boston Consulting Group [2000] estimates that 65% of all shopping carts that are "filled" by online shoppers are abandoned, never leading to a sale. By distributing successful innovations, the virtual mall owner could provide value to tenants while also improving buyers' shopping experiences.

Virtual malls can also reduce costs in ways that have historically been only available to large integrated stores. An example is the co-branded stores relationship that Amazon has recently launched in conjunction with Toys-R-Us. In this model, the traditional retailer pays Amazon both to offer their products on the Amazon.com site and to house their merchandise in Amazon's warehouses. This is a closer relationship than being part of the Amazon Commerce Network because the partner/tenant is renting pieces of Amazon's virtual and physical space, which can create efficiencies by reducing packing and shipping costs. In theory, other customer services could also be offered more efficiently in aggregate, lowering costs and increasing profits (or lowering prices to consumers). These savings are analogous to how physical malls create efficiencies by reducing customers' transportation and search costs. Additionally, virtual malls can reduce customer acquisition costs by advertising a broad range of online shopping opportunities in ways that reduce the need for their individual virtual tenants to broadly promote their wares (Yahoo, for example, has begun advertising its virtual mall on television).

The historical trend is that retail innovations lower prices and mark-ups, but increase demand and improve inventory management. This has greatly improved the efficiency of U.S. retail, allowing retail profit margins to survive much smaller merchandise mark-ups. Online retail potentially extends this process another step. However, another historical lesson is that retail coalesces into clusters under single ownership. Until virtual malls develop a workable model that both increases sales by facilitating integration and personalization and reduces costs by sharing infrastructure such as website design, warehousing space, and other customer services, online retail is unlikely to reach its full potential and the success of virtual malls will be in doubt.

VIRTUAL MALLS AND THE FUTURE OF TRADITIONAL MALLS

Internet-based commerce threatens traditional mall owners because online retail has the potential to reduce tenant rents. Reductions could be as simple as lower sales leading to lower overage payments, but the process will likely be more complicated. Shopping center rents are influenced by the total economic value that the shopping center provides (the rent level in the absence of an alternative location) and by tenants' next-best-location alternative (adjusted for quality differences). The Internet both offers tenants a new alternative, locating online, and reduces the maximum value of physical locations as sales volume shifts online. That is, to the extent that virtual malls enhance online retail, they threaten traditional shopping centers through both channels.

The initial competitive concern attributed to tradition retail players—that pure-play Internet retailers would quickly capture large market shares—now seems naive. By the end of 2000, it became clear that traditional retailers are likely to capture a large fraction of Internet sales (e.g., Helft [2001]). Nonetheless there is every reason to believe that the Internet will be a major retail channel as both virtual stores and malls enhance their capabilities and improve the online retail experience. Similar to how new brick-and-mortar space tends to depress rents, successful virtual malls will lower shopping center values unless offline malls carve out an important role in this developing retail channel.

In our previous article (Hendershotts [2000]) we discussed a hybrid retail model that would blend both online and offline elements into a seamless shopping experience. The hybrid model has the potential to evolve at both the individual store and aggregate mall levels. Large malls and networks of malls are best prepared to match the economies of scale and information aggregation of online competition, but they need to develop a closer relationship with their customers using features like preferred/frequent customer cards, personal shopping assistance, and personalized discount programs (Miller [2000]). Existing malls are uniquely positioned to offer their tenants the best of all worlds—an aggregation of both physical and virtual traffic and scale economies when providing services and gathering information—but this requires investing in the infrastructure and expertise necessary to enable their tenants to share information and integrate their online and offline operations. If traditional shopping center owners fail to become part of the effort to intertwine their tenants' different retail channels, malls risk seeing one part of their business become a showcase for products that are subsequently purchased through another channel and another part become a returns depot for purchases made at their tenants' online stores. While it is not difficult to imagine lease contracts that would allow malls to survive these changes (see Miller [2000], for some examples), shopping center values would clearly fall.

Today, brick-and-mortar malls are the primary point-of-sale for retail transactions. In the future, an increasing share of retail transactions will occur over the Internet. However, as with past innovations, online retail can be expected to coalesce into clusters under single owners, or virtual malls. At this early stage, it appears that existing malls are well-positioned to play an important role in this transition.

ENDNOTES

[1]Boston Consulting Group [2000] reports actual growth rates for 1998 and 1999 of 190% and 120%, respectively, and forecasts growth of 85% (to $61 billion) for 2000.

[2]When the Mall of America, the largest Shopping Center in the U.S., was constructed, Macys, Bloomingdales, and Nordstroms were viewed as critical to its success. To get them into the Center, the developer gave them the land and $30-$38 million each, more than enough to build their stores.

[3]Because the downtown "anchors" do not capture the full value of their draw, downtown shopping areas have less draw than they otherwise would. As a result, city governments have often stepped in to try to create greater draw—when draws are a public good, only public institutions are willing to spend the resources to create them. Unfortunately, this eliminates market discipline.

[4]While this clause exists in over 95% of leases, the option is generally set sufficiently out of the money that less than half of the tenants ever pay overage rents (Eppli, et al. [2000]).

[5]The exercise of a cancellation when a tenant is behind on rent is also often more efficient than forcing default because of the saving of payments to third parties, i.e., lawyers.

[6]zShop transactions pose risks for Amazon because Amazon guarantees the transactions up to certain dollar limits: $250 for direct purchases or $1,000 when using Amazon for payment.

[7]The online specialty-retail index grows from five stocks (CDnow, Beyond.com, Cyberian Outpost, eToys, and FashionMall.com) on June 1, 1999 to 12 stocks in February 2000 (following Pets.com's IPO).

[8]See Miller [2000] for details on which types of products are best suited for e-tailing.

[9]Wal-Mart, Barnes&Noble, Kmart, PetsMart, Nordstrom, Staples, Toys-R-Us, and The Right Start are some examples of retailers that created high-profile, independent Internet subsidiaries.

[10]For example, Amazon.com produced its first widely distributed catalogue during the 2000 holiday season.

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