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E-COMMERCE: GOLD RUSH OR FOOL'S GOLD?

By

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E-Commerce:
Gold Rush or Fool’s Gold?

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Executive Summary

“Electronic commerce is the carrying out of business activities that lead to an exchange of value across telecommunications networks.” (EITO 1997)

Electronic commerce, subsidized by an enthusiastic capital market, has the potential to revolutionize the way individuals and organizations interact. E-commerce offers efficiencies both for retailers (in the form of increased market access and information and decreased operating and procurement costs) and consumers (in the form of comparison, customization and choice). With a growing number of dual heads of household (two working members) and a resulting emphasis on convenience, electronic commerce seems visionary. Below, we highlight some of the characteristics of (and general conclusions regarding) electronic commerce to put in perspective the trillion dollar estimates and impact on physical retail real estate.

Current Virtual Retail Environment

♦ Nature of E-estimates

■ Estimates for total Internet transactions in 2003 are as high as $1.6 trillion.

■ Business-to-business sales represent the majority (80% on average) of e-commerce revenues and are expected to grow to represent even more (93% on average) by 2003. It is the business-to-consumer segment that will potentially impact retail real estate.

■ Current measures of e-commerce sales are widely disparate, the result of differences in definition and content. The Census Bureau plans to begin tracking sales in 2000.

♦ Net Demographics: Narrow Scope - Broad Opportunity

■ Of the roughly 50 million Internet users, only 18% are shoppers, according to eMarketer and Forrester Research.

■ The average e-shopper is an affluent male. Women comprise roughly 40% of the online population, yet are responsible for only 17% of online purchases.

■ According to an end-of-1998 Ernst and Young study, slightly more than half of all business-to-consumer Internet purchases are from towns with populations of 50,000 or less. Purchasing goods online is particularly appealing in areas where shopping opportunities are limited.

■ International Internet surfers are generating as much as 30% of web traffic. The opportunities for entrance into new markets and the efficiencies gained from virtual sales of customized and fringe (specialty, closeout, seasonal, excess) products are large.

♦ What Works?

■ Product-focused web sites have been more successful than multi-category and mall-like sites. Consumers tend to shop online for specific (often commodity or service-oriented) products rather than to browse.

■ Multi-channel retailers (Schwab, Lands End, Dell) account for the bulk of online revenues, grossing nearly 60%, according to BCG and Shop.Org. Another study by Xerox found that the
top 5% of web sites garner 50% of total web revenues, evidence of the importance of online store advertising and highlighting the advantage that existing branded retailers have over new pure play entrants.

- The Internet enables retail synergies in the form of consumer information, market segmentation, test marketing, inventory management, fringe and customized product sales, new market access and choice.

Current Physical Environment

- The Parking Lots Are Still Full
  - The current retail environment is robust. Sales growth (5.8% in 1998) is particularly strong in the power center and mall retail sectors. The overall vacancy rate (6.4%) is at a 15-year low. Both consumer spending and leasing activity is strong.
  - Retailers (in all sectors) with e-commerce capability are growing their store base at a much faster rate than those without an e-retail presence. Non-e-commerce enabled retailers are closing stores. The Internet will enhance the effectiveness of successful retailers and quicken the demise of poorer operators.
  - Retail development is dominated by grocery and drug anchored neighborhood centers and by entertainment and theme-oriented retail projects, renovations and expansions. New construction is occurring in in-fill locations to maximize consumer convenience.

Catalysts/Deterrents to E-expansion

- Information Efficiencies/Distribution Inefficiencies
  - Efficiencies will be realized across the retail spectrum in the form of improved vendor and distributor communication, consumer information and marketing strategies, access to new and distant markets, test marketing and excess inventory sales. Large-scale operating cost efficiencies will be particularly evident within service-oriented sub-sectors (banking, travel, brokerage, insurance) and for digitally deliverable products (software, CDs). However, web operation does not necessarily equal lower cost operation. Some retail sectors may find it more profitable to sell physically.

- Manufacturer-to-Consumer Online Commodity Model
  - With few barriers to entry and easy price comparison, margin pressures will be especially intense for web retailers, potentially encouraging manufacturer direct sales in some product categories.

- Virtual Loyalty/Virtual Profitability: Consolidation
  - Web retail’s major advantage is also its potential major disadvantage. The Internet is not constrained by time or space; price wars, mouse-click comparison and undifferentiated convenience (site branding and loyalty difficulties), together with the burden and cost of merchandise return will constrain e-commerce expansion and inhibit profitability, potentially forcing online consolidation, manufacturer-to-consumer sales or an expanded physical presence.
Product Type Analysis

♦ Travel, Computers, Services, Standardized Products

- E-retail (business-to-consumer electronic commerce) growth will affect certain categories more conspicuously. Travel and computers are expected to represent at least 50% of total business-to-consumer sales in 2003.

- At-risk to e-retail competition are those goods which are undifferentiated, generic, non-critical, cheap-to-ship, high margin (books, toys, sporting goods), digital in nature (music, software, entertainment) and/or related to financial services (banking, brokerage, travel).

Property Type Analysis

♦ Sales Erosion in Overstored Sectors and Among Weaker Retailers

- E-retail, in conjunction with shifting demographics, growing suburban communities, higher wages and rising rents, will hasten sales erosion in overstored retail sectors and among less effective or weak retailers. Physical retailers have a track record of adaptability. In general, power center tenants will require the most adaptation, as these retailers often sell higher margin, lighter weight, commodity-type products. Comparatively, neighborhood strip tenants with more of a convenience and service orientation (with the exception of travel agencies) will require less adaptation as online commerce expands.

Historical Models

♦ Will Technology Offset Tactility?

- Retailers have repeatedly and triumphantly faced threatening new retail formats. At-home and discount models, such as catalogues, home video and outlet centers are important reference points as they illustrate retailer flexibility and adaptability and the intrinsic human desire for a social experience and physical interaction. However, these models cannot forecast the impact of increasingly capable technology on traditional retail.

E-commerce Potential - Revolutionary or E-volutionary?

♦ Sweeping but Differentiated Impact

- The impact of e-retail on traditional channels will cumulate over time. The pace of accumulation, magnitude of result and nature (positive or negative) of the impact will vary by sector. Internet-enabled or -initiated information accessibility, technological innovation and investment will affect every sector of the economy.

♦ New Characteristics of Space/Value-Added Component

- Physical retailers will increasingly focus on personal service, knowledgeable staff, entertainment-oriented additions (themes, music, interactive experiences), food and luxury items. Ultimately, it may be the physical showroom/return center that helps to drive online sales for certain products. Effective return and distribution of online ordered goods will require a revolution in delivery systems, which may result in more and centrally located stores or distribution centers.
E-retail will reach a significant market share in some retail sub-sectors because it:

1. Meets consumers' demand for value, information and convenience.
2. Gives consumers unprecedented direct access to product and services historically handled by numerous middlemen.
3. Enhances the shopping process for some goods, offering product and price comparison information, personalization, privacy and kinship with like-minded shoppers.

E-retail will not reach a significant market share in some retail sub-sectors because of:

1. Profitability and site differentiation hurdles.
2. Logistical obstacles and inefficiencies.
3. Inability to touch merchandise.
4. Inability to offer physical human interaction.
5. Inability to satisfy desire for instant gratification.

The dominant retail model will continue to be the physical store; the location, format and scale of the traditional store will almost certainly change.

The advent of electronic retailing, paired with substantial capital market financing, may be the most significant challenge that the retail industry has ever faced. While the near-term impact is negligible, longer-term potential impact is significant. Just as shopping centers profited from the proliferation of autos, highways and suburbs, market participants with established brands are in a favorable position to profit from e-commerce expansion. Existing retailers and shopping center owners must make investment decisions based on the reality of a well-funded Internet revolution.

Implications for Real Estate Investment

- Risk Adjusted Real Estate Values/Changes in Leasing, Development, Demand
  - Internet-related expansion (and physical retail sales erosion) risk is not priced into the value of physical real estate, just as e-commerce financing and profitability risk is not incorporated into the value of e-retail stocks.
  - E-retail will affect physical sub-sector profitability, presenting both opportunities and threats, and therefore will influence trends in leasing and retail development.
Overview of Current Virtual Retail Environment

Estimates for Electronic Commerce: Summary

E-commerce estimates are widely disparate. As demonstrated in the table below, estimates for electronic commerce vary considerably (standard deviations are large), even within a specified (for example business-to-consumer or e-retail) sub-sector. It is the business-to-consumer sub-sector that will potentially impact retail real estate. In the following section, we examine the ingredients of an Internet sales estimate in order to try and comprehend these disparities.

| US Business-to-Consumer Electronic Commerce Sales Estimates ($ billions) |
|----------------------|--------|--------|--------|--------|--------|--------|--------|
| BancAmerica Robertson Stephens | 3.1    | 8.6    | 13.9   | 19.1   | 23.3   |        |        |
| Boston Consulting Group | 13.0   |        |        |        |        |        |        |
| Cyber Dialogue        | 3.3    | 11.0   | 10.8   | 16.8   | 24.8   | 34.7   |        |
| Datanmrntor           |        |        |        |        |        | 12.5   |        |
| eMarketer             | 1.8    | 4.5    | 7.7    | 14.8   | 22.0   | 35.3   |        |
| Forrester Research    | 7.8    | 18.2   | 33.0   | 52.2   | 108    |        |        |
| Gartner Group         | 6.1    |        |        |        |        | 20.0   |        |
| International Data Corp. | 12.4  |        |        |        |        | 16.1   |        |
| Jupiter Communications | 7.1    | 9.9    | 17.0   | 24.5   |        |        |        |
| Morgan Stanley        | 6.5    |        |        |        |        | 32     |        |
| Volpe Brown Whelan    | 6.0    |        |        |        |        |        |        |
| Yankee Group          | 11.5   |        |        |        |        |        |        |
| Average               | 2.7    | 8.6    | 12.1   | 21.1   | 29.4   | 27.5   | 108.0  |
| Standard Deviation    | 0.8    | 2.9    | 4.1    | 7.2    | 12.8   | 13.0   |        |
| Sources: ICSC, eMarketer, CyberDialogue, Robertson Stephens |

| US Business-to-Business Electronic Commerce Sales ($ billions) |
|----------------------|--------|--------|--------|--------|--------|--------|--------|
| eMarketer             | 5.6    |        |        | 140.0  |        | 268.0  |        |
| Forrester             |        | 48.0   |        | 66.5   |        | 1,500.0|        |
| International Data Corp. |        |        |        | 153.0  |        |        |        |
| Yankee Group          | 7.0    | 33.9   | 138.6  | 213.9  | 328.6  | 470.3  | 541.4  |
| Average               | 6.3    | 41.0   | 138.6  | 143.4  | 328.6  | 369.2  | 1020.7 |
| Standard Deviation    | 1.0    | 10.0   | 60.5   | 143.0  | 677.8  |        |        |
| Sources: ICSC, eMarketer, CyberDialogue, Robertson Stephens |

The excitement about rapidly growing electronic commerce sales should be tempered with the knowledge that the business-to-business sector constitutes the majority of the growth. Furthermore, even the highest estimate for virtual retail sales in 2003 ($108 billion) is less than 5.0% of total estimated US retail sales (excluding auto).
Characteristics of Electronic Commerce Estimates

Differences in definition and content. The number and the variety of predictions for online commerce are overwhelming. Estimates range from $4 billion to $40 billion for 1998 alone. In order to understand the wide disparity of estimates, we examined what is included in the calculations. We found that estimates vary in their inclusion or definition of:


♦ Business-to-business transactions. Business-to-business sales represent the bulk of electronic commerce.

♦ Products included in electronic retail sales. E-retail estimates may include brokerage fees, electronic fund transfers (EFT), auto sales, consumer-to-consumer or electronic auction purchases.

♦ Online sales and Internet user. Some definitions of online sales include research and information gathering. An Internet user may include someone under the age of 18 or someone that rarely accesses the web.

♦ Demand-side or supply-side approach to estimation. A demand-side approach examines the number of Internet users, the growth in users, the percentage of purchasers and the average purchase size to calculate total sales. A supply-side approach involves interviewing retailers regarding their actual and projected Internet-derived revenue.

Each inclusion decision affects the size of the estimate and the relevance to total US retail sales. For example, an e-commerce estimate that includes European transactions, Dell Computer's $500 million per month online computer-to-business sales and eBay's auction revenues, would overstate web sales as a percentage of US retail sales. In other words, e-retail sales estimates are generally a hybrid of goods and services, not readily comparable to US retail sales figures. Both Visa and MasterCard have questioned the accuracy of e-commerce revenue projections, with current online transactions representing less than 2% of overall credit card sales. Our dissection of e-commerce estimates reveals five characteristics common to most approximations.
Business-to-business sales represent the bulk of electronic commerce sales. On average in 1998, business-to-business electronic commerce represented 86% of total web sales, for five consulting firm estimates. It is interesting to note that despite this large percentage, less than 40% of firms are estimated to have e-business operations, according to a study by Computer Economics.

Business-to-business sales overall and as a percentage of total e-commerce sales are expected to grow. On average in 2002, business-to-business electronic commerce is expected to increase to represent more than 93% of total online sales, exceeding $1 trillion, according to Forrester Research.

![Business-to-Business Sales as a Percentage of Total E-commerce Sales](image)

Travel and computer products make up the bulk of business-to-consumer online sales, both in 1998 and in estimates for 2002. On average, travel and computer sales represented more than 75% of estimated electronic retail sales in 1998. While that percentage is expected to decline by 2002, travel and computer sales are still expected to represent between 50 and 70% of total e-retail transactions, according to three consulting firms.

Four product categories will represent more than 81% of total e-retail sales in one to three years, according to four consulting firms. For example, Forrester predicts that food and books will join travel and computer products to represent more than 87% of business-to-consumer revenues in 2002. Similarly,

![2002 Percentage of E-commerce Sales](image)

Sources: Forrester, Jupiter, BCG, Yankee Group, eMarketer, Cyber Dialogue, OECD< ICSC
eMarketer estimates that entertainment (including ticket, adult entertainment, games and gambling revenues) and food together with travel and computer sales will represent more than 84% of total online retail.

**Catalogue sales are expected to represent a significant portion of business-to-consumer electronic commerce revenues.** Merrill Lynch expects that 40% of all catalogue sales (approximately $42 billion) or roughly 37% of estimated e-retail revenues to transfer online by 2003. The top 12 catalogue firms all have electronic commerce operations.

**Who’s Online: Net Demographics**

The online population is beginning to more closely resemble the average US resident in terms of age, gender, income and education, according to consulting firm eMarketer. However, despite an increase in the number of women shopping online and a decrease in the average online buyer’s income level, the Internet is still more highly represented by affluent males.

While the number of women online is growing, women are still under-represented as Internet users relative to the proportion of women in the US. As of mid-1998, roughly 40% of Internet users were women, compared with 51% of the US population. Furthermore, women spend proportionally less online than a 40% presence might predict. Cyber Dialogue found that women generate only 17% of e-commerce revenues.

![Percentage of Women](image)

The average household income among Internet users in 1998 was $56,268 (according to four online consulting firms), 46% higher than the median US income. Furthermore, eMarketer estimates that 18% of Internet users live in households making over $100,000 per year. Related to the disproportionate percentage of high-income Internet-user households is the equally asymmetrical number (relative to the US population) of Internet users with a college education. More than half (56%) of Internet users have a college education or higher, compared with one-fourth (26%) of the US population.
The median age of the Internet user (38 years old) is increasing (from 32 years old in 1996) and now exceeds the median age of the US population (36.2 years old).
Baby Boomers represent a majority of the online population; the number of teenagers online is growing. While Baby Boomers represent roughly 49% of the online population, according to eMarketer, the number of children online is also expanding according to four consulting firms. In 1997 the average estimated number of children (age three to 17) online was 7.7 million. In 2002, that number is expected to increase to an average of 37.8 million or by 37.5% per year. Teenagers (ages 12 to 17) represent the largest share of children online. At year-end 1998, nearly half (47.6%) of all US teenagers were online, representing roughly 16% of the estimated total online population. Nevertheless, by year 2000, children (age three to 17) are only expected to generate 1.3% of e-retail dollars, according to consulting firm Jupiter Communications. In 10 years however, the impact from a computer-conditioned Generation Y may be extraordinary.

While the demographics of the Internet are shifting, the average Internet user does not yet reflect the average US citizen. A typical web user today is a college-educated, middle class, married, male “Baby Boomer,” working in a computer or education-related profession and living in a small town.
Internet User Growth Trends

The number of Internet users has more than doubled since 1997 and is expected to nearly double again over the next two to four years, growing at an approximate 16% average annual rate, according to consulting firms eMarketer and BancAmerica.

[Graph showing Internet User Growth]

Source: eMarketer

What Are They Doing Online: Usage Patterns

Consumers are spending more time per week (6.5 hours on average) online, emailing and gathering information, signaling increasing comfort with the Internet; the percentage of online shoppers is small. Most consumers access the Internet at home (70%), but only 26% go online on a daily basis. Compared with more than 80% of users that access the Internet to gather information, conduct research and "surf," only 18% of Internet users go online to shop, spending an average of $100 per year online, according to Forrester Research. A $100 billion business-to-consumer revenue projection for 2003 would require 100% of Internet users to spend roughly $1000 per year online. More than 70% of consumers use a search engine as their primary navigation tool, perhaps justifying the 50+% of Internet advertising dollars that portals collect.

Net Geography

Significant opportunity for International web user growth. About 60 million people worldwide use the Internet, according to eMarketer as of mid 1998. Nearly 70% of these users reside in the United States and Canada. Nevertheless, the top 10 US web sites are getting as much as 30% of their traffic from outside North America. Western Europe, with 14 million people online, accounts for 18% of the world's online population. The eight million web users in Asia and the Pacific Rim account for approximately 11% of the world total, yet represent only 0.4% of the total population in that region, highlighting the enormous potential electronic commerce has to cross continental barriers and access new markets.
The majority of web shoppers live in small towns. An end-of-1998 Ernst & Young study found that 51% of online shoppers live in towns with populations of 50,000 or less, compared with only 2% of Internet consumers that live in major metropolitan areas. Internet shopping enhances convenience in areas where shopping opportunities are more limited.

Online Retail: What Works?

Product-focused and consumer-to-consumer sites and multichannel retailers are most successful online. Today the online specialty store and the consumer-to-consumer or auction site are emerging as the most popular virtual structures in the retail web world. For example, eBay and eToys are among the top five retail web sites in terms of reach. In 1997, a number of online malls folded, including well-funded MarketplaceMCI and IBM’s World Avenue. As online malls have receded, online specialty/category retailers (eToys, CDNow, Dell Computer) have emerged. The general failure of the online mall may be related to the inherent difference in the online versus in-store experience. At-home, Internet shopping is often product focused and convenience-oriented (consumers web-shop with a specific product in mind and to save time).
Comparatively, physical malls thrive on the browsing experience and on the impulse purchase. Online malls and megastores lack both the instant gratification and the visual and tactile component that stimulates impulse buying and bandwidth constraints prevent enjoyable and speedy product browsing. Art Coppola, of Macerich Company succinctly described the situation, “Most items sold in malls are sold not bought.” Virtual pitches and Frequently Asked Question Lists (FAQ’s) have been less effective than the eye-catching tactile experience and in-person sales clerk.

While multi-product web sites have failed, multi-channel retailers have succeeded. Retailers, like Dell, Schwab and Land’s End, grossed nearly 60% of e-commerce revenues in 1998, according to a study by Shop.org and Boston Consulting Group, perhaps demonstrating consumer affinity for choice and highlighting the opportunity for established physical retailers online.
Overview of Current Physical Retail Environment

Frenzied enthusiasm for the electronic retail format accompanies a robust physical retail sales environment.

Retail Sales

Physical store sales are strong, particularly within the power center and mall formats; the overall vacancy rate is at a 15-year low. Overall retail same-store sales grew a strong 5.8% in 1998, the highest rate since 1992. For the first five months of 1999, same store sales have increased an average 6.2% relative to the same period in 1998. In Merrill Lynch’s universe of 59 retailers, power center anchors have reported the strongest comparable store sales gains, averaging 8.4% since January 1999. Mall specialty shop retailers have reported similarly strong same store-sales gains, averaging 6.9% over the same five-month period. Vacancy rates are also demonstrating signs of an active retail market. The overall vacancy rate in 1998 was 6.4%, the lowest rate since 1984.

Pace of consumer spending to slow. Strong retail sales are driven by nearly full employment and gains in income and household net worth. The latter is supported most significantly by a bull stock market. A correction in stock market prices would have an immediate dampening effect on retail purchases. Overall, the retail industry is at a peak point in demand. We expect retail sales growth to slow even without a recession or stock market decline.

Trends in Store Growth

Retailers (in all sectors) with e-commerce capability are expanding their physical presence at an above average rate; retailers without an e-presence are closing stores at an above average rate. For example, both Wal-Mart and Gap (with significant online market share) are aggressively growing their physical store base. Wal-Mart is spending $1 billion to increase its physical presence and the Gap plans to open 400 more stores. On average over the last four years, retailers have expanded their store presence at a 5.8% (net) rate. Interestingly, retailers with current e-commerce capabilities have grown their store base at a much faster pace, by 9.2% (net). Those retailers without a virtual presence have grown their physical

Trends in Store Growth

<table>
<thead>
<tr>
<th>Year</th>
<th>Retailers w/ E-comm Capability</th>
<th>Retailers w/o E-comm Capability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>5.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>1997</td>
<td>10.0%</td>
<td>5.0%</td>
</tr>
<tr>
<td>1998</td>
<td>15.0%</td>
<td>10.0%</td>
</tr>
<tr>
<td>1999E</td>
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<td>0.0%</td>
</tr>
<tr>
<td>2000E</td>
<td>10.0%</td>
<td>5.0%</td>
</tr>
</tbody>
</table>

Source: Byrne Associates
presence at a below average (2.6% net) rate. Similarly, it is the retailers without e-commerce capacity that are expected to close stores at an above average rate (3.0%) over the next two years, compared with e-enabled retailers anticipating closures at an average 2.1% rate. Retailers expanding virtually are also growing physically, apparently betting that the Internet will complement their physical presence.

**Trends in Retail Format: Entertainment, Scale, Ambiance**

Entertainment-oriented retailers are the fastest growing segment of retail. In the past the act of shopping was entertaining; today consumers are demanding more than just product selection and service to encourage consumption. Movie theatres, restaurants, sports facilities, health clubs, spas, game centers, clubs and entertainment memorabilia shops are examples of the changing retail tenant mix in shopping centers. Below, we highlight nine examples of such entertainment- and experience-related development, expansion and renovation projects. The majority of projects are open-air, large-scale and theme-oriented.

1. Simon’s Mall of America, a three million square foot mall and amusement park, attracted more than 40 million visitors in 1998. Comparatively, Las Vegas receives 32 million tourists each year. The center’s 500 stores reported average sales of $800 per square foot (relative to average mall tenant sales of $300 per square foot), a 7% increase from 1997.

2. Simon’s Forum Shops are theme-oriented, anchor-less and reporting record sales of $1200 per square foot.

3. Mall of Georgia is a 1.7 million square foot center with an outdoor village, amphitheater, nature park, cinema and IMAX theatre in addition to traditional retail shops.

4. Sony’s 400,000-square foot Metreon Complex in San Francisco attracted 150,000 visitors in 5 days. The center includes a cinema, an IMAX theatre, restaurants, three interactive environments, a few small retailers and a Sony/Microsoft “showroom.”

5. Mills Corp.’s Block in Orange, California has 811,000 square feet of retail space, with less than 30% devoted to traditional tenants. The center is open-air and emphasizes on experience over product assortment.

6. Trizec Hahn’s 600,000-square foot Hollywood and Highland Center includes a renovated movie palace, a live event theatre, restaurants and memorabilia stores.

7. Drager’s Marketplace in Menlo Park is a 40,000 square foot grocery project with an Italian Renaissance theme, café, open kitchen, kitchenware shop, cooking school and acclaimed restaurant.

8. Kardstadt, the largest department store chain in Europe, now includes in-store CyberCafes, where consumers can shop and compare product prices online and in a social setting.

9. Disney Quest, Nike Town and REI are additional examples of experience-focused retail projects, attracting record numbers of visitors.

While entertainment-oriented retail centers can inspire purchase, enhance the shopping experience and comfort of the customer and encourage destination-shopping; more space for entertainment means less space to sell goods and more time watching movies, listening to concerts or eating out means less time to shop.
Catalysts/Deterrents to Electronic Commerce

Catalysts:

Operating Cost

For many service-oriented businesses, the Internet offers significant opportunity for operating cost reduction. A study by Andersen Consulting offers the following example of improved transaction efficiency.

<table>
<thead>
<tr>
<th>Typical Banking Transaction</th>
<th>Travel Reservation</th>
<th>Brokerage Transaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Branch: $1.07</td>
<td>Agent: $10.00</td>
<td>Full Service Broker: $150.00</td>
</tr>
<tr>
<td>ATM: $0.27</td>
<td>Internet: $2.00</td>
<td>Discount Broker: $69.00</td>
</tr>
<tr>
<td>Internet: $0.01</td>
<td></td>
<td>Internet: $10.00</td>
</tr>
</tbody>
</table>

Cost of Capital: Cheap Money/Extraordinary Market Caps

Web retailers are benefiting from the market's enthusiasm for dot-com. Inexpensive equity capital is funding massive marketing campaigns and infrastructure upgrades. Half of all venture capital money is flowing into Internet companies in 1999. Internet retailers have a combined market cap of $64 billion, 15% of the combined $423 billion market cap for all Internet companies. Comparatively, traditional retail developers are at a disadvantage. Lending on physical projects is more rigid and slanted toward the proven format. However, should investor zest for e-commerce ventures soften, capital needed for market share expansion, brand building programs and technological upgrades will disappear. Traditional lenders will not back ventures with negative profit margins. Thus far however, investors are demonstrating patience in waiting for profitability.

Sales Tax Advantage - Near-term

Near-term, pure play e-retailers have a 5% to 10% pricing advantage or margin cushion. In 1998, Congress enacted a three-year sales tax moratorium on goods sold over the Internet. As a result, pure play online retailers have a 5% to 10% pricing advantage over store-based retailers, which potentially offsets the cost of shipping & handling. However, with online retail sales estimates of $100 billion in 2003 and average sales tax of 7%, the potential loss in tax revenue to state governments is a conspicuous $7 billion. As online sales grow and state governments anticipate a decline in tax revenues, freedom from state sales tax will be a short-lived phenomenon.

Government Support

Information technology and business-to-business e-commerce are catalyzing economic growth. Information technologies contributed about one-third of US real economic growth in 1998 and electronic commerce, particularly business-to-business online transactions, is expected to significantly add to US GDP in the future. As a result, the Clinton administration has been actively
working to increase worldwide digital commerce. Tactics have included the transfer of government control of the Internet Domain Name System to a global non-profit organization and the appointment of a dedicated officer to head an e-commerce taskforce. In addition, the Commerce Department and the Federal Trade Commission are expected to launch a consumer education campaign on electronic commerce.

Technology - Long-term

Longer-term, technology will enhance the online experience, enabling easy and more rapid customization, navigation and ordering. Site infrastructure will become more sophisticated, connection speed will increase and encryption and payment security will become more standardized and accepted. The increasing number of web-ready computers and potentially web-enabled television will enhance consumer comfort levels online and help convert the percentage of the population still hesitant to enter the virtual world. Bots (Internet information assistants) will enhance web maneuverability, price comparison abilities and shopping convenience.

Efficiencies

Increased efficiency is especially evident in business-to-business transactions, where the cost of interaction with vendors is greatly reduced and the return on information is enhanced. However, efficiencies are also realized in the form of customer information, complementary product and service offerings, ease of test marketing and international and new market exposure.

Appeal of Disintermediation/Infomediation

As online pricing pressures escalate (particularly in the commodity goods sector), the online retailer may find profitability unattainable, replaced in some instances by the manufacturer, in other instances by a more profitable physical store. However, a study by Ernst & Young suggests that the majority manufacturers (57%) are unwilling to sell online because of the nature of their product and because of perceived channel conflict. Furthermore three-fourths of the 15% of manufacturers that sell online currently have less than $200 million in annual revenues. With expected profitability at least two years away and near certain alienation of distributors, an online transition is a risky shift in strategy. Rather, the majority of manufacturers selling online rank providing information, promoting brands and responding to customer inquiries above actual product sales. Manufacturers with current e-commerce capabilities expect online sales to represent only 7.3% of total sales in 2001.

Convenience

Consumers are spending less time shopping and making more shopping trips. E-shopping will become increasingly convenient for certain commodity, staple and personal products (paper goods, gifts, specialty-size clothing, pornography). Online purchase reminders, personalized catalogs and price comparison capabilities will encourage online purchase of some cheap-to-ship, standard, or not-fun-to-purchase goods.

Deterrents:

Return/Receipt Burden - Cost of Delivery

As evidenced by the catalogue industry, the major deterrent to at-home shopping is the cost of delivery, burden of coordinating receipt of the item purchased and the cost of return (both for the
consumer and for the retailer). Particularly for small ticket, low cost items (often those that are most comfortably ordered online) delivery efficiency becomes a real burden. Online transaction still involves a human component and and physical cost. However, while in a physical store, the customer locates the product and effectively “ships” the product home. In the online store, the employee must locate the good and the company must bear the burden of delivery. Furthermore, between 30% to 40% of all catalogue purchases are returned and Merrill Lynch anticipates this percentage will be even higher for online merchandise. Unless remedied, the cost of shipping (particularly a returned product in terms of processing expenses, damaged inventory and lost revenue) together with the amount of consumer effort required for product receipt and return will continue to hinder e-retail sales growth in the future.

Cost: Start-up/Marketing/Operating

Large-scale virtual retail operation is expensive short-term and unproven long-term. Although perceived to be a more cost efficient retail format, the virtual store must contend with significant operating expense obstacles associated with start-up and site construction, site maintenance, advertising and marketing, distribution, shipping and customer service.

Marketing. A study conducted by Boston Consulting Group and Shop.org found that e-retailers spend an average of $26 on marketing and advertising per order generated, compared with an average expenditure of $2.50 by physical retailers, reinvesting an average 65% of revenues, compared with 4% reinvested by traditional retailers. While this rate of expenditure will diminish as conversion rates increase (currently less than 2% of visits result in purchase), physical stores have the advantage of being able to spread out marketing and advertising expense over a number of stores and consequently over a larger number of customers. Highlighting the importance of web store advertising, Xerox Corp. recently found that the top 5% of web sites receive nearly 75% of all web traffic.

Start-up and Operations. A study by Gartner Group found that the average cost of constructing a site is $1 million. Site maintenance and upgrade also presents a significant cost to e-retailers. With an escalating number of users, site failure is becoming more common. Charles Schwab for example employs more than 250 engineers and technicians devoted to their e-commerce site and data maintenance alone. Outdoor products retailer REI questions the online labor cost-saving argument, finding that 200 part-time store clerks and 60 well-paid programmers and engineers result in equal labor expense (not including distribution and customer service labor cost). Similarly, as physical product sales grow, so does the cost of distribution. For example, Amazon.com is growing its distribution space from 300,000 square feet to 2.7 million and adding 600 employees to its Atlanta base alone. When compared with the average 7% to 10% retailer rent expense, the “virtual” operation is not necessarily more cost-effective.

Differentiation of Site/Long-term Profitability

Long-term e-commerce site profitability may be questionable. Commodity-type goods, those that have been most successful to-date online are also the most price competitive. As technology improves and web sites are equally navigable, if Toys‘R’Us, Mattel, KB, Wal-Mart and E-Toys all offer an equally large selection of goods and if customer service is quick and capable, what other than price will drive consumer loyalty online? Will massive marketing campaigns successfully differentiate a site and ensure brand fidelity? With few barriers to entry and easy price comparison, substantial online competition may make economic profitability unattainable. In fact, less than 5% of e-commerce ventures are expected to be profitable in the next 12 to 18 months as they focus on distribution management, customer service and marketing. For some standardized goods, manufacturer-to-consumer sales may be the only profitable online model. Again,
however, the issues of marketing, online brand building, channel conflict in the physical world and a the creation of a new service and technical infrastructure will continue to deter manufacturer sales online.

Technology - Near-term

The technological foundation for electronic commerce is still evolving; failures may frustrate shoppers and postpone virtual sales growth. Security software, transaction standards, financial services and bandwidth are examples of some key areas lacking in sophistication and/or size. As Internet traffic increases, compatibility issues and decreased download speed will frustrate a number of online shoppers. Solving the Internet throughput problem is expensive and there is no consensus solution. According to a February 1999 survey by Frost & Sullivan, IT executives cite bandwidth as one of the top two Internet issues, while a study by Forrester Research lists transaction security as the number one electronic commerce deterrent. Jupiter Communications found that 30% of all applications launched on high-end web sites fail, further evidence of the technological hurdles still to be overcome by electronic commerce ventures.

Technological innovation in retail has a history of failure. Where the Universal Product Code (UPC) Scanner and Just-In-Time (JIT) inventory system succeeded, Videotex (TV-based home computer/shopping system), Interactive TV, Checkout Channel (monitors displaying advertisements and promotions at the checkout line) and VideoCart (computer mounted on shopping cart displaying store promotions, map, advertisements) floundered. All had prestigious backers (ATT, Knight-Ridder, Time Warner, Turner Broadcasting), all resulted in significant investment losses (ranging from $16 - 100 million) and VideoCart filed for Chapter 11 in 1993. While the Internet and technology in general has the potential to transform the retail environment, history would remind us that the majority of innovations will not succeed.

Socialization and Tactility

Shopping is an event, a social experience; high-priced, differentiated goods and apparel need to be physically examined prior to purchase. The act of shopping is, for many, a sort of ritualized event or excursion; shopping centers are still destinations. Purchasing through the Web may be convenient for certain product types, but it can also be isolating, unsatisfying and boring. In a digital economy, where consumers spend the majority of their workday behind a computer, an additional hour shopping at the same computer may be unattractive. Consumers tend to be wary of high cost, non-standardized items that they cannot physically examine and test. Furthermore, Internet shopping does not satisfy the desire for immediate gratification, often at the root of impulse buying. A survey by Zona Research reported that 33% of online shoppers were frustrated by their experience during the 1998 holiday season, perhaps added evidence of shoppers’ desire for physical product interaction. Even the Chairman of Amazon.com, Jeff Bezos said, “There is a need for public spaces where people can shop and be entertained.” The need for an outdoor, physical change of space may be more appealing than a virtual browse, convenient click of the mouse and possibly inconvenient return later on.

Sales Tax Advantage - Long-term

Online sales tax moratorium questionable long-term; margin cushion eliminated. Longer-term, the introduction of sales tax on Internet purchases would eliminate the 5% to 10% pricing advantage e-retailers have used to cushion the cost of shipping and bolster margins. While consumers can potentially justify the cost of shipping an expensive (for example computer) purchase online from sales tax savings, an end to sales tax freedom online will further hurt web retailer profitability.
Rapidly Scaling Operations to Accommodate Web-Time

E-retailing requires rapid and continual rethinking of business operations. As the International Council of Shopping Centers (ICSC) pointed out in a recent convention, e-commerce operates at "nanosecond speed." Technology is quickly outdated and the business model incorporating that technology is equally easily outmoded. E-operation requires Herculean flexibility and deep pockets.

Consumer Data Privacy Issues

Abuse of consumer information could deter online shoppers. Online visitors provide a wealth of information to retailers and businesses. As consumers are increasingly bombarded with promotions, requests for renewals, junk mail and marketing literature, the convenience of online shopping may be undermined. IBM's video recognition camera's failure illustrates consumer defense of privacy. Initially developed to recognize loyal customers upon entrance, the camera is now used to recognize vegetables at the checkout stand. Effective management of web generated information will require tiptoe acknowledgement of consumer privacy or hefty government intervention.
Product Type Analysis: Susceptibility to Online Format

In order to try to estimate the future impact of electronic commerce on traditional retail sales, we surveyed the current environment for various categories of goods and services. We conclude that certain goods and services appear more suitable for an online sales format. Often these categories are aggressively expanding their virtual (and physical) presence amidst an onslaught of web-based competition. In all instances the Internet provides an opportunity for enhanced customer understanding and service and expanded market access and may encourage existing brand loyalty. Rick Sokolov of Simon Property Group anticipates that “Business-to-consumer e-commerce will be viewed a complementary channel of distribution rather than a competitive one.” Similarly, Lonnie Fogel of Abercromie & Fitch believes that “The web provides a vital role in the overall fulfillment function.” With business-to-consumer e-commerce currently representing less than one-half of one percent of total US retail sales (excluding auto) and forecast to represent less than five percent of estimated US retail sales in 2003, current product analysis is necessarily embryonic. It is also important to remember that of this small percentage of US retail sales, travel and computer sales are estimated to comprise the majority of online business-to-consumer sales, both in 1999 and in 2003.

Services

Travel, entertainment and financial services will comprise the bulk of business-to-business electronic commerce over the next three to five years. Travel and entertainment are expected to represent at least 50% of Internet business-to-consumer sales in 2002. Online brokerage and financial services have grown dramatically in 1999.

- Travel is forecasted to represent the largest portion of online business-to-consumer sales, according to seven firms (OECD, eMarketer, Cyber Dialogue, Jupiter, BancBoston RS, Yankee Group, Boston Consulting).

- Entertainment (gambling, ticket sales and pornography) represents an enormous portion of online sales activity (42% according to the OECD). More than three-fourths of the online population (40 million) visited entertainment-related sites in 1998.

- Online brokerage activity is accelerating and according to Yankee Group is one of the fastest growing sectors of e-commerce. Approximately 20% of Internet-enabled households are investing online. Painewebber, Charles Schwab, E-Trade, Ameritrade, Salomon Smith Barney, Merrill Lynch are examples of firms offering (or planning to offer) online brokerage and trading services. Constraining online trading growth are execution delays, outages and system failures. Ameritrade took a $3.1 million charge to earnings in the first quarter of 1999, the result of technology-related delays in execution. The SEC noted a record number of complaints related to online trading in 1998. Ultimately, the economic advantages of online brokerage operation will outweigh the cost of e-system failures.

- Online insurance revenues are expected to exceed $4 billion in 2003 and an additional $7 billion in sales are expected to be generated from online insurance research and selection.

- Banking revenues are predicted to near $1.2 billion in 2003, from an estimated $160 million in 1998. Security First Network Bank, Wells Fargo and Citibank are the top three online banking firms.
Goods: Homogeneous and Heterogeneous

In our retail goods category analysis, a general divide emerged between the standardized or homogeneous good and the differentiated or heterogeneous product in terms of potential electronic retail influence. Overall, the homogeneous good appears more suited to an online sales model. Nevertheless, as illustrated by the graph below, only a few product categories are expected to dominate business-to-consumer e-commerce. None of these categories is expected to siphon a significant percentage of physical market share in the next 3 - 5 years, on average taking less than 7% of physical sales.

![Estimates for E-Retail by Good Category 2000 (Billions $)](source: Jupiter Communication)

Ultimately, we anticipate that media (books, music, video) and higher margin, cheap-to-ship, standardized goods will more effectively transfer to an electronic retail model. Gift, book and music, auction, computer and travel product categories make-up the merchandise mix for the top 10 retail web sites. Of the top 100 sites, 70% are represented by these five categories. Greg Kerfoot at Sears believes, “Gifts represent the single biggest opportunity for e-retail...where try-on isn’t relevant and wrapping and sending are made easier.”

### Top 10 Shopping Sites by Reach

<table>
<thead>
<tr>
<th>Rank</th>
<th>Site</th>
<th>Product Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BLUEMOUNTAINARTS.COM</td>
<td>Greeting Cards</td>
</tr>
<tr>
<td>2</td>
<td>AMAZON.COM</td>
<td>Books, Music, Gifts</td>
</tr>
<tr>
<td>3</td>
<td>EBAY.COM</td>
<td>Auctions</td>
</tr>
<tr>
<td>4</td>
<td>BARNES &amp; NOBLE.COM</td>
<td>Books, Music, Gifts</td>
</tr>
<tr>
<td>5</td>
<td>ETOYS.COM</td>
<td>Toys/Gifts</td>
</tr>
<tr>
<td>6</td>
<td>CNET SOFTWARE</td>
<td>Computerware</td>
</tr>
<tr>
<td>7</td>
<td>MAPQUEST.COM</td>
<td>Travel</td>
</tr>
<tr>
<td>8</td>
<td>EGGHEAD.COM</td>
<td>Computerware</td>
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<tr>
<td>9</td>
<td>CDNOW.COM</td>
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</tr>
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<td>10</td>
<td>MUSICBLVD.COM</td>
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Sources: BancBoston Robertson Stephens
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<tr>
<th>Sample Product Category</th>
<th>Tactility Important</th>
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<th>Customization Important</th>
<th>Personal Nature</th>
<th>High Margin</th>
<th>Cheap-to-Ship</th>
<th>Instant Gratification Less Important</th>
<th>Standard</th>
<th>Price Sensitive</th>
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<tr>
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<tr>
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<td>✓</td>
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<td>✓</td>
<td>3/10</td>
</tr>
</tbody>
</table>

**Homogeneous Goods**

Commodity goods are at higher risk to e-erosion; the online commodity retailer's profitability is questionable -- logistics hurdles are large. Commodity-type goods are most susceptible to a virtual sales format. However, with necessary high marketing and advertising expense, increasingly demanded physical customer support capabilities, growing warehouse and distribution cost and a large number of competitors in a price sensitive market, ironically, it may be the physical format that ultimately enables commodity e-retailer profitability.

**Books**

*E-format Pros:* 1) tactility (touch and feel) of books is less important, 2) some books are personal in nature and anonymity is important, 3) books are a relatively high margin business averaging in the high 20% range, 4) books are relatively cheap to ship, 5) instant gratification can be less important in book buying, 6) books are standard items, 7) books are price sensitive, 8) books are good gift items, which makes ordering from home especially convenient and can make the cost of shipping less important. *E-format Cons:* 1) the economics of individual delivery and 2) the difficulties encouraging online loyalty are potential obstacles to web bookstore profitability.

**Key Players.** Amazon.com, Barnes & Noble.com, Borders.com, Webbooks are examples of growing web booksellers.

**Physical Financial Overview.** Book comparable store sales, earnings and gross margins all declined in 1998 and Amazon.com's gross margins are nearly five percentage points lower than the physical store average. Furthermore, a recent study by MIT found that book and CD prices online were 9% to 16% lower than in-store prices (depending on sales tax and cost of shipping inclusion).

Is the in-store experience still valued? When Amazon.com recently lowered the price of its bestsellers, Barnes & Noble.com and the online subsidiary of Border's Books quickly did the same. However, these booksellers kept physical store book prices constant. To enhance the experiential element of physical book buying and enable higher off-line prices, we may see bookstores with expanded entertainment and food components.
**Sporting Goods**

*E-format Pros:* 1) tactility (touch and feel) of sporting goods can be less important, 2) the in-store experience is generally unpleasant, 3) sporting goods are a high margin business, averaging in the low 30% range, 4) sporting goods are relatively light weight and therefore cheap to ship, 5) instant gratification can be less important with sport-related goods, 6) sporting goods are a fairly standardized item 7) sporting goods are generally price sensitive, and 8) make good gift items. *E-format Cons:* 1) tightly controlled distribution network, 2) the difficulties in encouraging site loyalty.

**Key Players:** Just for Feet, Gear.com, BigToe Sports. The majority of physical sporting goods stores are not selling online.

**Physical Financial Overview.** Comparable sales, earnings, and openings all declined in 1998. Sports store comparable sales systematically declined in 1998, averaging negative 0.5%, a nearly two and one half-percentage point decline from 1997. On average, earnings declined 15.9% in 1998. Again, the question arises: can physical sports stores enhance the purchase experience (and thereby maintain higher “off-line” prices) with, for example, courts to demo the equipment? A larger, showcase format sports store may accelerate brand awareness and therefore encourage online loyalty.

**Toys**

*E-format Pros:* 1) the in-store toy purchase experience is generally unpleasant, with long lines and ineffective sales staff 2) opportunities exist for customized or personalized toys, 3) toys are a fairly high margin business, with margins averaging in the mid 30% range, 4) toys are generally light weight and therefore cheap to ship, 5) individual toys are standardized, 6) toys are price sensitive, 7) toys are gift-oriented, online purchase is especially convenient for busy parents. *E-format Cons:* 1) touch and feel of toys are an important part of the selection process by children, 2) instant gratification is important for children, 3) economics of individual small deliveries, 4) large number of competitors, and 5) site branding are obstacles to e-profitability.

**Key Players:** E-toys, Toys'R'Us, Holt, Mattel, iQVC and Toymart are examples of online toy retailers. E-Toys is the number five retail web site.

**Physical Financial Overview.** Toy store comparable sales, margins and earnings all declined in 1998. Toy store comparable sales declined considerably in 1998 relative to 1997, falling, on average, 3.7 percentage points. Meanwhile, gross margins also showed significant deterioration, Toys'R'Us margins declined more than six percentage points while Gymboree margins fell nine percentage points to a still-high 35.4%. Store openings are expected to surpass 1997 opening numbers.

**Heterogeneous and Luxury Goods**

Differentiated, higher-priced and/ or heavier products appear more protected from Internet competition: online model would require dangerously discounted prices to offset need for physical interaction with product and service staff. Generally, consumers of differentiated or luxury items require physical interaction with the product and sales staff prior to purchase. Differences in size, texture and fit direct apparel purchase and at times outweigh price advantages. High-priced electronics and entertainment systems generally require a “test-drive” before purchase. Consumers of luxury items, like expensive jewelry, often demand personal attention, ambiance, a pampered experience to close the deal. Ultimately, heterogeneous and expensive products will be a difficult sell online.
Apparel

E-format Pros: 1) opportunities exist for custom apparel products as Levi's has experimented with online, 2) apparel is generally a high margin sector, margins average in the high 30% to low 40% range, 3) apparel is lightweight and therefore can be shipped inexpensively. E-format Cons: 1) try-on is extremely important in clothing purchase, 2) instant gratification is also highly valued in apparel, 3) in general clothing is not standard, differences in fit, feel and size among others make online purchase difficult, however, standardized clothing as generally appears in catalogues may be appropriate for virtual purchase, 4) returns are significant with catalogue apparel purchases, averaging 30% to 40%.

Key Players. Land's End, Gap, J Crew, LL Bean, JC Penny, Eddie Bauer, Bluefly and Macys are examples of online apparel retailers. Catalogue apparel companies Lands End (number 41), J Crew (number 66) and LL Bean (number 71) are among the top 100 retail web sites.

Physical Financial Overview. Same store sales are among the strongest of any retail sector. The brand name (specialty) apparel sub-sector is more cushioned from online sales pressure; with the exception of cataloguers, few specialty apparel retailers sell online. Average comparable sales increased significantly in 1998 by nearly two percentage points (to 7.1%) relative to 1997. Same store sales have averaged 10% for the first six months of 1999. Earnings grew on average more than 40% in 1998 for the 12 retailers we examined. In contrast, private label apparel firms are suffering. For example, private label retailer, Dress Barn, comparable sales, gross margin and earnings all declined in 1998 and private label retailer, Today's Man, began Chapter 11 reorganization in December 1997. Standardized, non-brand name and catalogue apparel will more easily incorporate the Internet into the sales channel, while brand name, higher-cost apparel will generally require a tangible preview prior to purchase. Will a $1200 discounted Armani suit sell without a mirror? Bluefly.com is an example of a web-based apparel firm betting that it will.

Electronics and Entertainment

E-format Pros: 1) the in-store entertainment and electronics experience is generally unpleasant, 2) as with computers, opportunities exist for entertainment system customization, 3) electronics and entertainment items are fairly standardized, however, systems differ in quality, sound, speed and graphic characteristics among others, 4) electronics and entertainment products are price sensitive, which is particularly important in terms of potential for a manufacturer-to-consumer online model. E-format Cons: 1) tactility and sensory interaction is particularly important for electronic and entertainment systems, 2) the sector is low margin, gross margins average in the low 20% range, 3) systems can be weighty and therefore expensive to ship, 4) immediate gratification can be important with a high priced system.

Key Players. Buy.com, 800.com, Cyberian Outpost, Netmarket and Onsale are examples of electronics and entertainment online retailers. Best Buy, Circuit City and Radio Shack are not e-retail enabled.

Physical Financial Overview. Electronic and entertainment store sales were robust in 1998; entertainment systems are less suitable for e-sales than computers. Comparable store sales increased from an average negative 3.0% in 1997 to positive 10.5% in 1998, while gross margins increased 1.2-percentage points to a still-low 21.4%. With computer and computer products estimated to account for roughly 30 - 40% of online business-to-consumer sales in 2000 and as Web-based computer retailer margins continue to slide, we anticipate electronic and entertainment stores to increasingly shift focus from computer and related products to entertainment-type (television and stereo) merchandise, to avoid margin deterioration. Gross margins at Internet computer and electronics retailer Onsale.com decreased from a low 16.9% in 1997 to
an even lower 11.4% in 1998. Similarly, at Compaq, where online sales now represent nearly one-quarter of total sales, gross margins declined from 27.4% in 1997 to 21.3% in 1998. Such sector margin deterioration may have contributed to Circuit City's marginally negative (-0.04%) earnings growth in 1998.

**Grocery**

**Online grocery sales model intuitively questionable; big bets online.** Grocery sales exceed $400 billion per year; web-based grocery sales are less than $300 million (less than 0.01% of total). Online grocery sales look economically unattractive. Grocer gross margins are among the thinnest of any retail sub-sector (around 24%). Comparable sales are systematically low (around 2%). Delivery cost is enormous. As a result, there are few web-based grocery stores and physical grocery store openings are accelerating. Netgrocer, Peapod and Webvan are among the online firms betting on e-grocery expansion.

- Netgrocer, the largest online grocer, was forced to abandon an IPO last fall, has laid off half of its 80-man workforce, and increased delivery prices twice. The company now offers delivery of a limited selection of dry goods, after 10 years of operation.

- Peapod, the only publicly traded online grocer, has shifted its strategy several times, from in-store handpicking and delivery of merchandise to a warehouse distribution model, resulting in financial distress.

- Webvan has recently announced a $1 billion contract with Bechtel to build 26 highly automated warehouses nationwide. The company plans to offer free delivery, to improve razor-thin grocery margins with automation, to be profitable within a year.

- Albertson's, a traditional physical grocer, is experimenting with online order fulfillment in Dallas, from a 100,000 square foot warehouse. At the same time, the company plans to more than double its physical store base (from 1,000 stores), adding 1,250 new stores through 2004.
Retail Property Type Risk Analysis

In order to determine risk level for specific retail property types (malls, community centers, strip centers, power centers) we 1) ranked product categories in terms of potential sensitivity to Internet sales, 2) examined typical anchor tenants for each retail format in terms of product type and 3) allocated property risk based on perceived anchor susceptibility to Internet-related sales erosion. The resulting continuum does not reflect differences in operator or owner effectiveness, nor does it reflect risk to investments from sources other than electronic commerce, for example shifting demographics, expectations, wages, rents.

![Risk Continuum Diagram]

**Neighborhood Strip**

We believe the convenience orientation of neighborhood shopping centers will limit the potential erosion from Internet sales. At the same time, there is an opportunity to link store-based and Internet capabilities to enhance the efficiency of the customer’s routine shopping requirements.

- The Internet can not replicate the ability to pick-up products when needed nor to personally select items such as produce.
- On the other hand, grocers and other convenience retailers can offer consumers delivery of regularly used commodity products like paper towels and detergent. In fact, whether delivered or not, the retailer can assist the customer by tracking their purchases - essentially offering a household inventory management system and offering on-line account access for billing, inventory and promotions.
- Travel agents have already been significantly impacted by Internet sales. We expect this relatively small component of the neighborhood shopping center to be largely eliminated over the next three years.

Overall, we believe neighborhood shopping center sales are at low risk of erosion from Internet sales.

**Malls**

We believe malls are relatively insulated from electronic commerce sales growth. Our rationale is as follows:

- The current leasing environment is extremely strong. All of the 36 shopping center tenants Merrill Lynch follows expect to significantly increase new store openings in 1999, representing an average 40% increase over 1998. By signing five to ten year leases, retailers are demonstrating their confidence in store-based sales and insulating malls from a decline in physical stores sales at least through 2004. As mentioned above, a number of the retailers expanding their physical presence
also are enlarging their online sales capability.

- Malls have already lost sales to big box, power center anchors (book, toy and music stores represent less than 5% of inline space, on average), and outlet centers which has forced mall owners and tenants to emphasize the shopping experience rather than the purchase result. For fashion product categories, malls offer customers the product selection, sales help and convenience features lacking in the lower priced alternative. Entertainment tenants such as restaurants, movie theaters and interactive stores have enhanced the mall’s experience edge.

- Online malls have not been successful. We surmise that this is because at-home, Internet shopping is often product focused and convenience-oriented, in other words, consumers go online with a specific (standardized) product in mind (toys, books, sporting goods). Physical malls thrive on the browsing experience and impulse purchases. Online malls however, lack both the instant gratification and the visual and tactility component that stimulates impulse buying.

- Percentage rents are less than 10% of shopping center revenues; a decline in tenant sales will not significantly lower net operating income.

- Mall owners will also benefit from business to business electronic commerce. Increased procurement efficiency, price comparison and information gathering have the potential to lower operating expenses. For example, General Growth is generating leasing activity through its corporate web site.

- Over time, the Internet will cause a shift in tenancy at the mall as different products win acceptance on the web. Malls have the opportunity to fill the gap between what the Internet offers and customers require, providing entertainment, display, showroom, try-on, tactility, pick-up, delivery, return and service functions. Bob Minutoli of the Rouse Company anticipates that the “Internet won’t hurt malls, but will make them stronger, reinforcing the mall as the primary distribution channel.”

Overall, we believe malls are at low to medium risk of erosion from Internet sales.

**Discount/Outlet Store**

The economics of the outlet store make it susceptible to online competition. From an economic vantage point, the Internet enables more cost efficient management of discounted and fringe inventory. Increasingly department stores are lowering prices to compete with the outlet store. As traditional physical competition grows and outlet store margins are compressed, the e-model emerges as a more viable sales format. However, the fashion discounter is slightly more insulated from rising e-commerce competition. Online apparel retailers will need to offer significantly lower prices to offset the need for physical interaction with clothing.

On the whole, we believe the discounter is at low to medium risk to e-sales displacement; the fashion discounter is more protected.

**Power Center**

We surmise that power centers are at higher risk to electronic commerce sales displacement. The majority of power center tenants trade on price and are product/category focused. For example, book, toy and sporting goods stores (all of which we label higher risk) are typical power center anchors. Both Merrill
Lynch and Green Street anticipate that power centers will be most affected by an increase in Internet sales. Green Street estimates that 3.5% to 4.0% of Internet sales in 2002 will come at the expense of power centers. However, power center tenants are growing their physical presence at an above average rate and demonstrating some of retail's strongest same store sales gains. In addition, many of the better operators are simultaneously establishing an Internet presence. Not all power center tenant products will transfer well online (Home Depot, for example) and historically 50% to 60% of computer, office supplies and book (typical power center anchors) purchases have been conducted through catalogues. In addition, movie theatres are increasingly locating in the power center, potentially further protecting it from declines in occupancy. Power centers are at higher risk because most tenants will have to be particularly adaptable. Eventually, power centers may evolve into distribution/warehouse nodes.

In general, we believe the power center is at medium to high risk to Internet sales drain.
Historical Models: Comparison to Electronic Commerce

In order to assess the future impact of electronic (at-home) commerce on physical sales, we examined the emergence and growth of historical home-based and alternative commerce models, including the Catalogue Model, the Dairy Delivery Model, TV and Home Video Model and other Retail Models. While these models provide insight into the historical displacement of physical retail, 1) they do not consider the impact of increasingly capable technology and its ability to transcend time and space and 2) these models did not benefit from a colossal capital market subsidy. Without a technological crystal ball, we can only look at historical retail models and contemplate their predictive ability for tomorrow.

The Catalogue Model: 1990 vs. 1900

The catalogue retail sector shares some key characteristics with the emerging electronic retail market and may therefore provide a window into the future of online commerce. Both sectors surfaced in order to provide additional/alternative convenience to the consumer. The catalogue industry, like online commerce today, experienced significant and initially alarming rates of growth, triggering predictions of the demise of the physical store format. As with current electronic commerce sales, the catalogue model is only successful for specific product types. Finally, both the catalogue and online commerce formats do not allow physical, personal interaction with service staff or product. In addition to researching historical trends in catalogue sales, we examined 12 of the top catalogue companies today in order to try and gauge the impact of electronic commerce on this traditional at-home shopping market. Our findings include the following:

♦ Sears Home Catalogue sales growth was significant (68.9% CAGR) during the company's first 5 years, according to Merrill Lynch. However since the sector's infancy in the early 1900s, catalogue sales have slowed dramatically, to 5.5% to 6.5% per year.

![CAGR During First 5 years](chart)

Sources: Merrill Lynch, ICSC

♦ The majority of catalogue sales are comprised of computer, standardized, often lower-priced apparel, office supply and gift product categories.
• The apparel segment of the catalogue sub-market may be slowing. Earnings in 1998 were flat for the four publicly traded apparel catalogue firms we examined (averaging 1.5%) and were negative for three of the four publicly traded apparel catalogue companies we examined (averaging -20.6%). In addition, in 1998 three apparel catalogue firms (Smith & Hawken, J. Peterman, Edison Bros.) declared bankruptcy and Brooks Brothers announced the sale of its catalogue division, perhaps reflecting the general difficulty of at-home apparel purchase.

• The computer product arm of the catalogue sub-market is demonstrating strong growth. Despite gross margin deterioration in 1998 (-200 basis points), earnings increased more than 30% and increased more than 63% excluding Compaq. Internet sales already represent more than 10% of Micro Warehouse's total sales and Dell expects half of its sales to be Web-based by 2003.

• The catalogue sub-market, at an estimated $60 billion to $80 billion, represents only 3% to 4% of current U.S. retail sales excluding autos.

• Catalogue companies are some of the best shopping center tenants, often generating more sales per square foot than their physical counterparts. Lands End, Victoria's Secret, J Crew, LL Bean, Abercrombie & Fitch and Dahlias are examples. The catalogue is especially useful as a branding and information gathering tool.

All of the 12 catalogue companies we examined have an online sales presence, and the majority intend to expand their Web sales capabilities. By 2003, Merrill Lynch predicts that half of all catalogue sales (approximately $40.2 billion) will be Web-based. We anticipate that the commodity nature of catalogue products, together with strong brand awareness and effective distribution networks, will grow online catalogue sales.

Delivery and Tactility Constrain Catalogue Sales Expansion

Catalogue industry growth tapered off after the first 30 years. What constrained catalogue sales expansion? Interestingly, factors similar to those currently discouraging Internet commerce participants inhibited catalogue industry development. The cost of return (both to the catalogue and to the purchaser) and the inability to touch the potential purchase were enough to prevent catalogue sales from displacing physical sales.

The Dairy Home Delivery Model

While the authors of this report are too young to remember milk delivery, the failure of the system provides an interesting insight into online grocery sales and the delivery obstacle in general. With the increase of dual heads of household and more centrally located stores, the economics of individual delivery declined. Growth in electronic commerce penetration of the grocery market will require a revolution in distribution and delivery systems. Online grocery retailer, Webvan.com's recent announcement of a $1 billion highly automated warehouse distribution system investment will be a test of this concept.

Home Video/Televised Event Models

The advent of the home video and its impact on the movie theatre format is another example of at-home versus in-store product competition. As with catalogue sales, the home video was predicted to disrupt, even displace traditional movie theatre sales. However today, movie theatre sales grow at a faster rate than home video rentals, receiving between 1.5 - 2.5 million visitors per year.
Similarly, if convenience and price are the main factors driving consumer expenditure, the emergence of televised sporting and other events should have resulted in empty baseball auditoriums and concert halls. Why pay to go to crowded arenas, sit in uncomfortable seats and eat overpriced food when the event is available remotely, from the comfort of a couch? The answer, perhaps the social nature of humans or the desire for an “experience,” may provide evidence against the obsolescence of the physical store in the face of a growing virtual market.

Notes on Other Retail Models: the Emergence of the Power Center, the Strip Center and the Discount Outlet

To conclude our review of historical changes in the traditional retail model, it is important to observe retailer adaptability. Shopping center product and tenant mix has shifted dramatically over time and in response to new retail formats. Reacting to the emergence of the power center, malls reduced the number of book, music and toy store tenants, replacing them with food, entertainment and fashion merchandisers. Yet, since the advent of the book superstore, book sales have grown by more than what was predicted by population and historical buying patterns. Rather than negatively impacting regional centers, the consistent materialization of new retail formats has strengthened the strong (and eliminated the weaker) retailers, forcing efficiency and focus. Physical retail sales today are robust and leasing activity for some centers is unprecedented. Just as the discounter format did not materially impact mall profitability, to-date a rapidly expanding electronic commerce market has not negatively influenced brick and mortar expansion plans. Peter Lowy of Westfield America notes that “With or without the Internet, the current retail mall mix will be different in five years; as consumer trends change, retail changes.” The question remains: can traditional retailers successfully acclimatize to the latest retail blueprint? If history were our guide, the answer would be yes.
Interviews with retail developers and owners, retailers and retail analysts highlights the divergence in opinions regarding electronic commerce's potential impact on physical retail sales and real estate. The graph below summarizes our interview results. Both owners and developers expect a relatively low impact on total sales. Retailers on average, expect less of an impact on sales than do property owners. Analysts stand out in their expectation of significant impact.

The Near Term View

Near-term business-to-consumer electronic commerce will have a gradual impact on both physical real estate and retail sales because of:

1. Habit. Changing decades old physical shopping habits will take more than a couple of years. In fact, in may take 10 years before a computer conditioned Generation Y is purchase-enabled.

2. Low conversion rates. A minority percentage of the online population actually purchases a good or service. A significant number of web shoppers have been frustrated by the experience. Top malls get about two billion “hits” each year, with about one in three visitors making a purchase. Comparatively, roughly one in 200 visitors make a purchase online.

3. Current technology. Bandwidth constraints and the resulting slow download speed and poor site resolution offset the convenience of online shopping.

4. Distribution. Lag in gratification together with delivery cost and inconvenience of return will restrict consumer e-retail acceptance.

5. Profitability. In the near-term e-retailers are not expected to be profitable as the trade margins for market share growth. Capital market enthusiasm for “e” anything is subsidizing revenue growth.
The Long Term View

In order to try and visualize e-commerce sales displacement potential, we created the following simplistic model. Possible impact on physical store sales growth in 2003 (the most distant forecast), with a high $108 billion in estimated e-commerce revenues, is noticeable (38 basis points) but not revolutionary. However, any sales erosion in the slow growing, mature retail sector will have an impact on profitability, development and valuations.

Long-term, electronic commerce will affect the entire retail spectrum, encouraging:

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<th>Total E-retail Sales</th>
<th>Catalogue $42 billion</th>
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<td>2003E</td>
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<td>Non-Catalogue $66 billion</td>
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<td>Total</td>
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<td>Computer $18 billion</td>
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<td>Apparel $18 billion</td>
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<td></td>
<td>Travel, Computer, Entertainment, Brokerage $43 billion</td>
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<td>Other $23 billion</td>
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<th>E-retail Sales</th>
<th>Shopping Center Sales</th>
<th>Percent Shopping Center</th>
<th>Shopping Center Sales w/o Internet</th>
<th>Shopping Center Sales w/ Internet</th>
<th>Ave. Impact 2003</th>
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<tr>
<td>$108</td>
<td>$23</td>
<td>1.8%</td>
<td>$1,083</td>
<td>$1255.5</td>
<td>2.62%</td>
</tr>
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1. Purely competitive retail model. Lower prices. Increased competition.
2. Compression of retailer margins in some sectors offset with business-to-business e-commerce efficiencies, better information and management of inventory and access to new markets.
3. Customization. Already occurring with: Levi’s, coffee blends, PCs, Disney theme gifts, Barbie dolls, greeting cards, cars.
4. Erosion of physical retail sales in overstored sectors and among already-weak retailers. Scott Wolstein of Developer’s Diversified noted that “In retail the rich get richer; online retailing will make those with dominant market share more dominant.”
5. Pure-play e-ventures build physical showroom and return centers. Web-based Gateway Computers uses physical showrooms to promote online sales.
7. Shopping center tenant mix shifts, emphasis is on entertainment, interactive experiences, theme, music, luxury goods, food, apparel and convenience items.
8. Technology improvements and Internet usage growth to leverage benefits of physical store. Shift from mass promotion to targeted marketing efforts. Examples: 1) frequent shopper program cards used to track purchases, offer replenishment suggestions, shopping lists and recipes in-store; 2) consumer profiles linked to UPC scanner to enable customer-centric marketing, plan future offerings and expansions; 3) online geography-based retail (community center) roadmap, outlining hours, promotions, inventory, product information of nearby retailers, incorporated into navigation systems of next-generation US automobiles; 4) in-store kiosks (Sears, Sony Music) offer expanded inventory, comparison capabilities and in some cases digital delivery in-store.

9. Manufacturer-to-consumer sales model for certain high-priced and commodity products (washing machines). Retailer emphasis on value-added, edited product assortments, service and experience. Shopping for toothpaste at Colgate and bread at Sunbeam probably won’t be worth the savings and additional time expenditure.

10. Dominant retail model --- the physical store, albeit in altered format.

11. Risk-adjusted retail property values. Just as the risk of unprofitability and capital contraction is not priced into Internet stocks, the risk to physical retail sales from web retail growth is not factored into the price of retail real estate.
Implications for Retail Investments: Strategy

Implications Summary
Given the revolutionary nature of technology and the speed with which it is affecting all aspects of commerce, it is difficult to accurately predict the impact on physical real estate. We believe the impact will be minor over the next three to five years. Beyond that point, real estate owners will experience losses in income and value if they have not adjusted their business strategy to take advantage of the Internet. We believe there will be an opportunity for investors to win and lose.

E-retail will:
- Affect the next evolution in retail stores and shopping centers,
- Shave retail operating margins,
- Imposing new capital demands on retailers and shopping center owners,
- Require investment decisions based on the opportunity and threat of the Internet to present and prospective tenants, and
- Not become the dominant retail model.

E-retail has the potential to:
- Increase brand awareness,
- Direct customers to physical retail establishments,
- Enhance the in-store retail shopping experience, and
- Generate demand for return, delivery, showroom, service- experience-oriented retail sites.

E-retail losers will:
- Not believe this story,
- Not invest in the Internet,
- Not adjust their in-store strategy, and
- Lease to retailers who are not investing in the Internet

Potential Trends in Leasing and Development
Potential shifts in leasing and retail format include:
- Transition from big box retail to distribution/ warehouse use,
- Potential shifts in parking/ loading area requirements depending on pick-up and delivery strategies,
- Lower improvement allowances for commodity, staple and at-risk retailers,
- Alternative measures of physical profitability, rent per square foot measure refined in some segments with the addition of non-sale showrooms, return centers, experience stores and kiosk sales,
- We recommend emphasis on tenants with a dual (physical/ virtual presence), financial stability,
differentiated products, a high level of customer service and business-to-business enabled e-commerce systems.

**Equity REITs Response - Examples**

Savvy property owners understand their new role as entertainment and event planners and as brand builders. The following are some examples of innovative integration of physical and electronic commerce.

- General Growth Properties has 36 of its 125 malls linked to CoolSavings.com, the largest distributor of coupons (for use at General Growth malls) over the Internet and is experimenting with shopping center Internet kiosks for expanded merchandise browsing.

- The Macerich Company is creating Internet web pages for each of its 46 malls that will enable shoppers to preview merchandise at Macerich malls.

- Rouse Company bought a 7.5% stake in Aim Smart Corporation, which provides free Internet access to mall shoppers if they agree to receive advertising and give information about their shopping habits over their computers.

- Simon Property Group is currently testing a venture using Microsoft technology that allows shoppers to buy goods from some of its malls from home.

- The Taubman Company made a $5.8 million direct investment in Fashionmall.com, an online mall linked to a number of Internet retailers.