

CS 155b: E-commerce

Lecture 17: April 12, 2001

Introduction to B2C E-Commerce

(Acknowledgement: Helen Chiang)

E-Commerce Definitions

- Electronic commerce is a set of technologies, applications, and business processes that link business, consumers, and communities
 - For buying, selling, and delivering products and services
 - For integrating and optimizing processes within and between participant entities

What is B2C?

- B2C Commerce: Interactions relating to the purchase and sale of goods and services between a business and consumer—retail transactions.
- “Novelty” is that retail transaction is done on the Internet, rather than a “brick and mortar” store location.
- Technical evolution of B2C from “brick and mortar” model not new.

Revenue Models

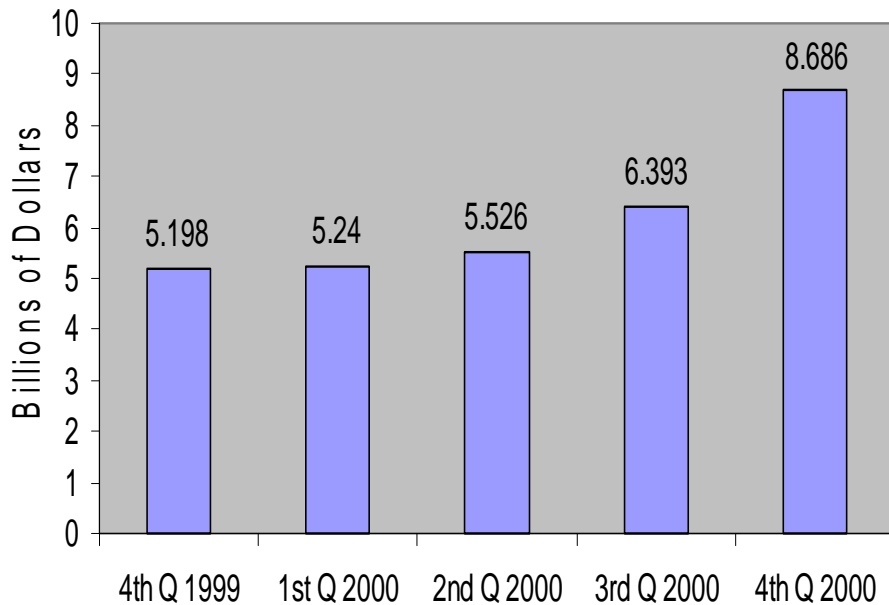
- Sell goods and services and take a cut (just like B&M retailers).
(*e.g.*, Amazon, E*Trade, Dell)
- Advertising
 - Ads only (original Yahoo)
 - Ads in combination with other sources
- Transaction fees
- Sell digital content through subscription.
(*e.g.*, WSJ online, Economist Intelligence Wire)

A Different Approach to Location Retailing

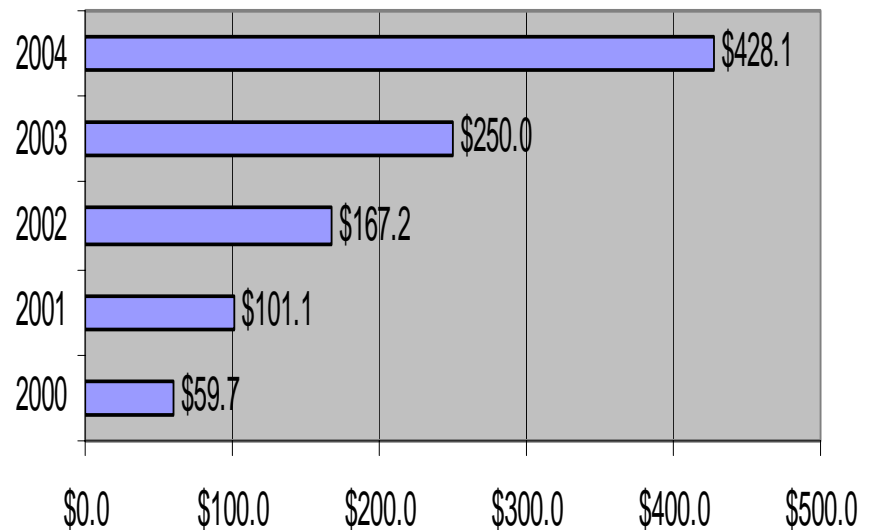
- In 1886, a jeweler unhappy with a shipment of watches refuses to accept them
- A local telegraphy operator bought the unwanted shipment
- Used the telegraph to sell all the watches to fellow operators and railroad employees
- Becomes so successful that he quits his job and started his own enterprise, specializing in catalog sales
- Name: Richards Sears of Sears Roebuck

E-Commerce Retail Sales

Estimated Quarterly U.S. Retail E-Commerce Sales 4th Quarter 1999 - 4th Quarter 2000



Worldwide B2C E-commerce Revenues 2000-2004 (in billions)



Source: eMarketer

Estimated Quarterly U.S. Retail Sales: Total and E-commerce

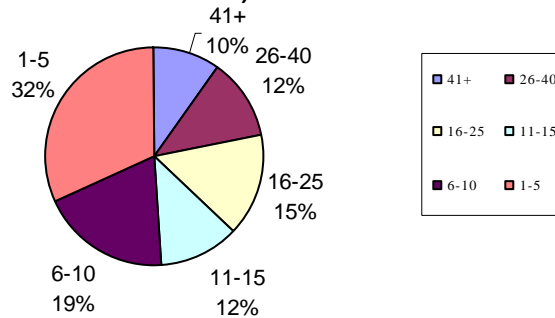
Data in millions of dollars. Not adjusted for seasonal, holiday, and trading-day differences.					
Period	Retail Sales		E-commerce as a Percent of Total Sales	Quarter to Quarter Percent Change	
	Total	E-commerce		Total Sales	E-commerce Sales
4Q 1999	821,351	5,198	0.63	8035	NA
1Q 2000	747,934	5,240	0.70	-8.9	0.8
2Q 2000	815,677	5,526	0.68	9.1	5.5
3Q 2000	812,158	6,393	0.79	-0.4	15.7
4Q 2000	856,234	8,686	1.01	5.4	35.9
Source: Commerce Dept.					

The State of B2C E-commerce in the U.S.

- U.S. consumers remain #1 the wired world as they increase frequency and volume of their online purchases
- But, the number of Internet purchases by U.S. consumers is second to the U.K.
- Among U.S. respondents using the Internet, 74% have purchased an item online in last 2 months, and 87% expect to make an online purchase in the next year.

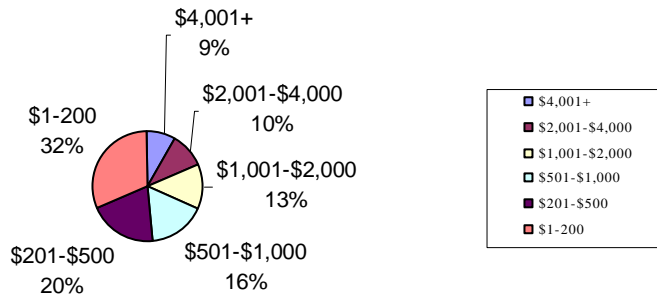
US vs. the World

Global Annual Online Transactions (Median = 10 transactions)



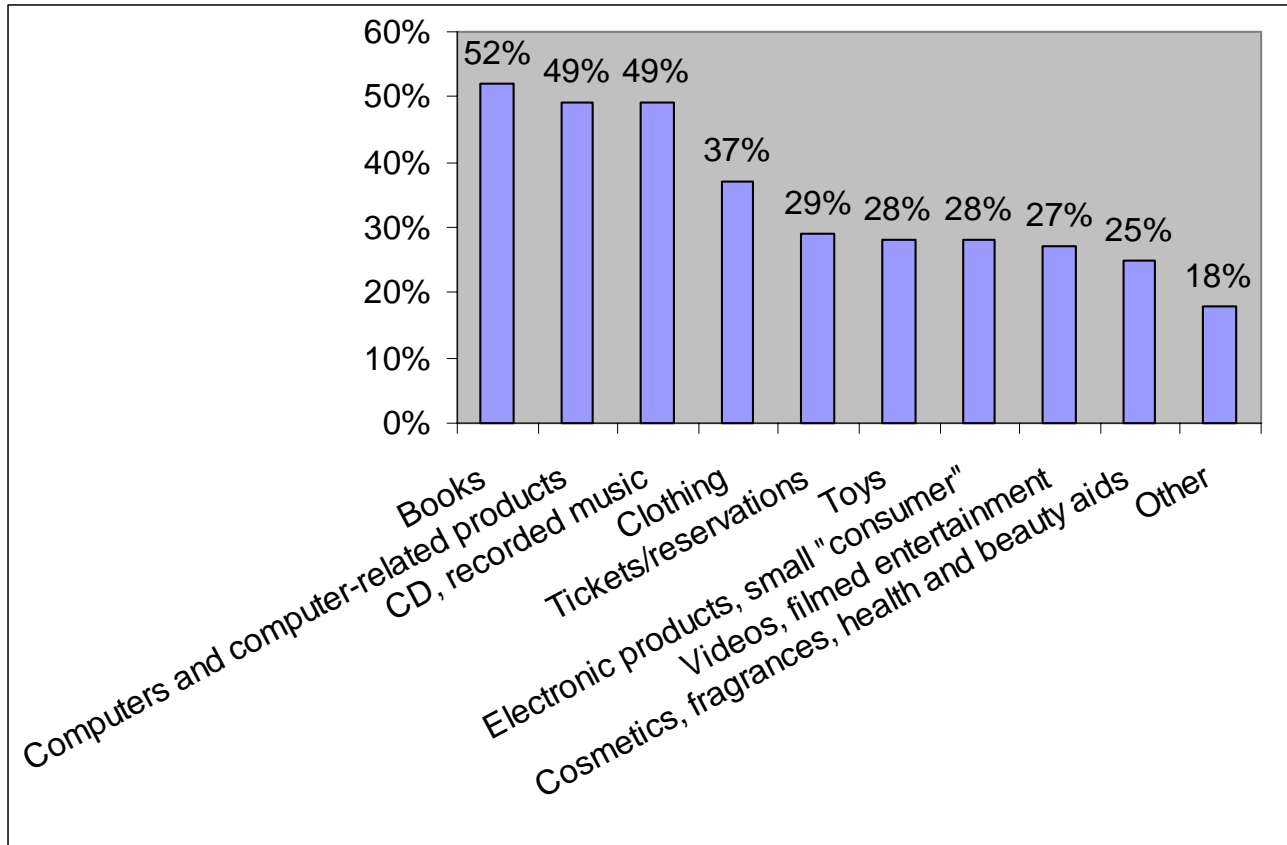
- Online buyers in the U.S. spent, on average, \$898 last year shopping online.

Global Annual Online Expenditures (Median = \$460)



- Worldwide: Median online expenditure total was \$460.

Top Ten U.S. Purchase Categories



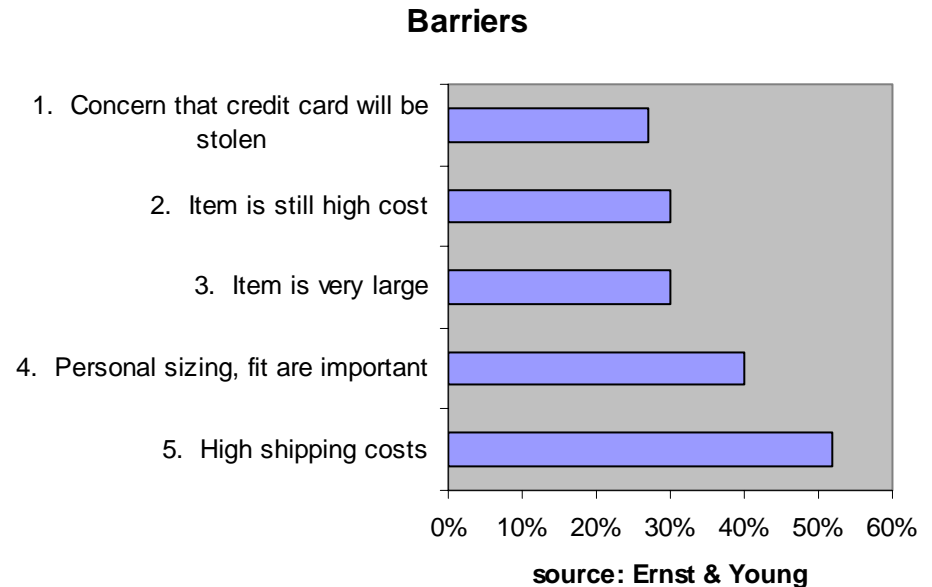
Top 20 Internet Retailers (based on 1999 values)

	Company	Online Sales to U.S. Consumers	Past-Year Customers	Average 12-month Spending
1	eBay	\$3.5-3.7B	10M	\$350
2	Amazon.com	1.7-1.9B	12M	150
3	Dell	1.1-1.3B	600K	2,000
4	buy.com	700-800M	3M	250
5	Egghead.com	500-600M	700K	800
6	Gateway	500-600M	350K	1,500
7	Quixtar	400-450M	600K	700
8	uBid	275-325M	600K	500
9	Barnes & Noble	275-325M	3M	100
10	Cyberian Outpost	200-250M	425K	550
11	Value America*	200-250M	250K	900
12	MicroWarehouse	200-250M	175K	1,200
13	Office Depot	175-200M	250K	750
14	eToys.com	150-175M	1.7M	100
15	Lands' End	150-175M	800K	200
16	The Spiegel Group	150-175M	450K	350
17	Fingerhut	150-175M	400K	375
18	CDW	150-175M	200K	800
19	JCPenney	150-175M	500K	300
20	Gap	125-150M	800K	175

Source: National Retail Association

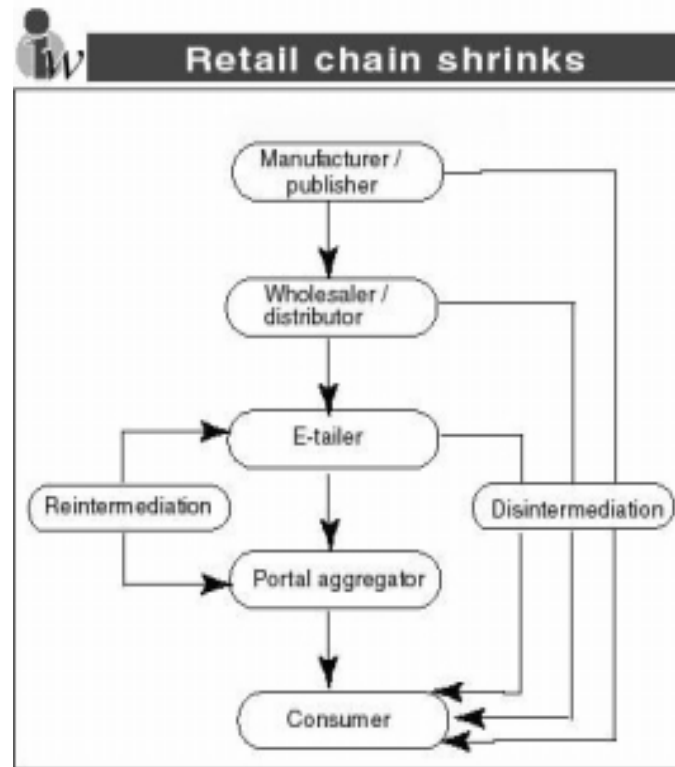
Open Issues in E-commerce

- Globalization
 - Contractual and Financial Issues
 - Ownership
 - Privacy and Security
 - Interconnectivity and Interoperability
 - Deployment
- Barriers to E-commerce (U.S.):
Old retail inconveniences and inefficiencies



First-Generation B2C

- Main Attraction:
Lower Retail Prices
- “B2C Pure Plays”
could eliminate
intermediaries,
storefront costs, some
distribution costs, *etc.*
- Archetype:
www.amazon.com



Source: Benchmark Capital Group ; The Economist

Basic Problems Encountered Immediately

- “Customer-Acquisition Costs” are huge.
- Service is technically commoditizable, and there are no significant network effects.
- Customers’ switching costs are tiny.
(Lock-in to online book-buying is high. Lock-in to Amazon is low. Recall Netscape and IE.)
- Competition is fierce in almost all segments. Few e-tailers are profitable.
- Investors have run out of money and patience.

Internet Customer Acquisition Costs

Customer acquisition cost = total spent on advertising and marketing divided by the total number of new customers obtained

- Amazon.com → \$29
- DLJ Direct → \$185
- E*Trade → \$257
- Various E-Commerce Sites → \$34

E-tailing is Difficult in Low-Margin Businesses

- Toys (e-Toys.com)
 - Typical online order contributes \$11 to gross revenues.
 - Warehouse, marketing, website, and other fixed overhead is high.
 - A pure-play e-tailer needs to capture at least 5% of the toy market to reach profitability.
- Groceries (Webvan.com, Peapod.com)
 - Typical online order contributes \$9 to gross revenue (fulfillment costs are very high).
 - Steady customer orders ~30 times/year.
 - McKinsey/Salomon-Smith-Barney's estimate of the value of one steady customer: ~\$900 over 4 years.

Current Theories (after first shake-out)

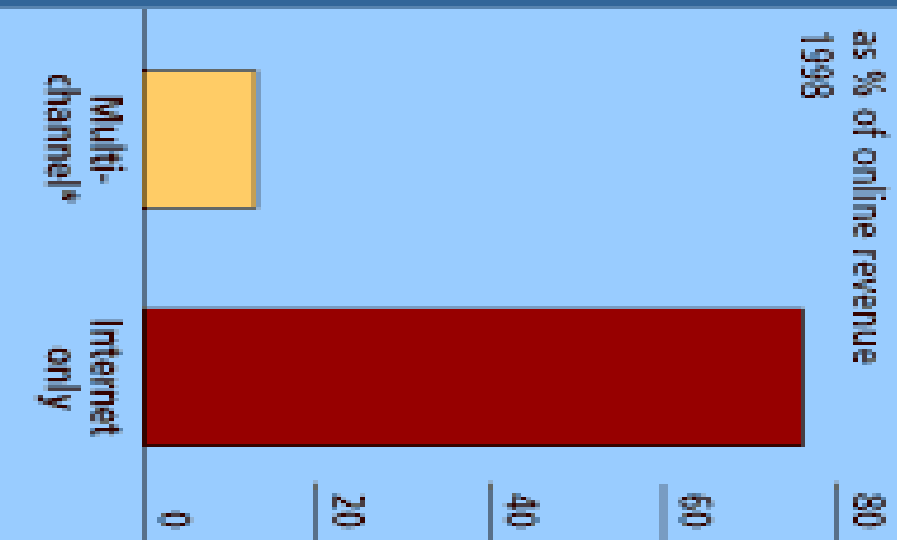
- High order frequency and large order size are more important than large customer base.
- E-tailers should strive for average order sizes of $\geq \$50$ and concentrate on high-margin product categories ($>35\%$).
[Traditional grocery margins: 2-3%.]
- Concentrate on making transactions profitable, not on VC-supported market-share wars.
- Combine e-tailing with B&M stores.

“Multi-Channel” Retail (B2C w/ B&M)

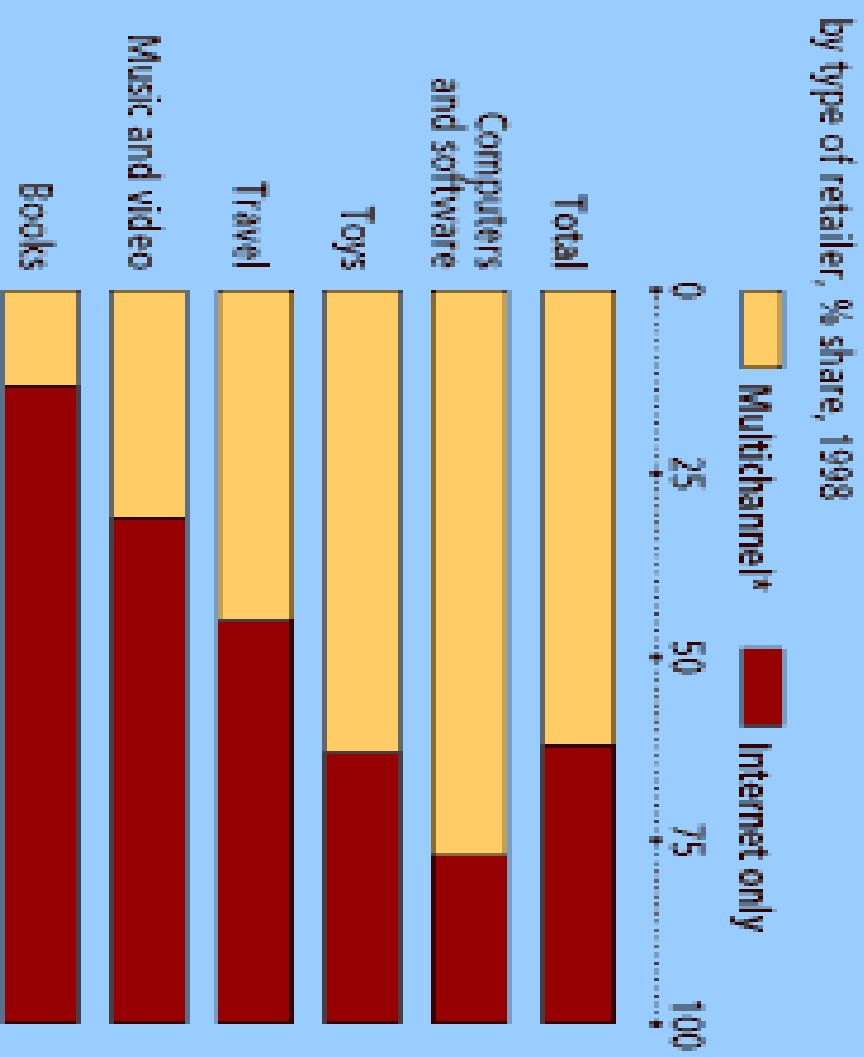
- Exploit multiple marketing and distribution channels simultaneously
 - B&M (“bricks and mortar”) stores: Customers browse on the web before going to the store.
 - Catalog sales, telephone, tv advertising,...
- In 1999, multi-channel retailers (*i.e.*, B&Ms or traditional catalog companies that also sell online) made up 62% of B2C e-commerce. Mostly high-margin sales, *e.g.*, computers, tickets, and financial service.
- Projected to reach 85% in next 5 years.
(Source: Boston Consulting Group)

The beauty of bricks and mortar

Online marketing costs



Online sales



Advantages of Multi-channel Retail

- Leverage existing brands.
- Biggest B&M retailers have huge clout.
(Walmart's annual sales are \$138B, much more than all e-tailers' combined.)
- Profits from existing channels can subsidize e-tail start-up. No need to quit when VCs lose interest.
- Use established distribution and fulfillment infrastructure (*e.g.*, LL Bean, Land's End,...).
- Cross-marketing and cross-datamining.

E-tailers are Adding “Offline” Channels

- Alloy.com sold clothes and accessories, but it became a hit only after its catalog was launched.
- Drugstore.com once dismissed B&M retailing, but it agreed to sell a 25% stake to Rite-Aid not long after rival Soma.com was bought by CVS.
- Gateway sells computers through WWW and catalog, but it also has 164 stores across U.S. They carry little stock, but they allow customers to “get a feel for the product” before ordering it.