

E-Commerce

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“Information technology is at the core of how you do your business and how your business model itself evolves”.

Satya Nadella, CEO of Microsoft Corporation
(WSJ, 2018)

E-business & e-commerce

- Electronic commerce (e-commerce)
 - selling and shopping on the World Wide Web (the Web)
- Electronic business (e-business) - e-commerce in a broader sense
 - selling & shopping on the Web
 - businesses trading with other businesses
 - internal processes that companies use to support their buying, selling, hiring, planning, and other activities
 - IBM's definition of e-business as *"the transformation of key business processes through the use of Internet technologies"*
- dot-com; pure dot-com - operate only online

Categories of e-commerce

- Consumer shopping on the Web
 - business-to-consumer (B2C)
 - consumer-to-consumer (C2C)
- Transactions conducted between businesses on the Web
 - business-to-business (B2B)
- Transactions and business processes in which companies, governments, and other organizations use Internet technologies to support selling and purchasing activities
 - business processes
 - business-to-government

Development and growth of e-commerce

- Electronic Funds Transfers (EFTs)
 - wire transfers: electronic transmissions of account exchange information over private communications' networks
- Electronic Data Interchange (EDI)
 - transmission of computer-readable data in a standard format from one business to another
- Dot-Coms
 - 1997 - 2003
- Second wave of e-commerce

Dot-com boom, bust, and rebirth

- Boom
 - 1997 - 2000 - burst of optimism for developing new ideas
 - >12,000 Internet-related businesses started with >\$100 billion of investors' money
- Bust
 - almost half went out of business, 2000-2003
- Rebirth
 - 2008–2009 **recession devastated many traditional retailers**
 - online sales continued to grow at 10-20% through the next 3 years

First & second waves of e-commerce .1

E-commerce characteristic	First wave, 1997- 2012	Second wave, 2013-
International character of e-commerce	Dominated by U.S. companies	Global enterprises in many countries participating in e-commerce
Languages	Most electronic commerce Web sites in English	Many e-commerce Web sites available in multiple languages
Funding	Many new companies started with outside investor money	Established companies funding e-commerce initiatives with their own capital
Connection technologies	Many e-commerce participants used slow Internet connections	Rapidly increasing use of broadband technologies for Internet connections
B2B technologies	B2B e-commerce relied on a patchwork of disparate communication and inventory management technologies	B2B e-commerce is integrated with Radio Frequency Identification (RFI) and biometric devices to manage information and product flows effectively

First & second waves of e-commerce .2

E-commerce characteristic	First wave, 1997- 2012	Second wave, 2013-
E-mail contact with customers	Unstructured e-mail communication with customers	Customized e-mail strategies now integral to customer contact
Advertising and e-commerce integration	Overreliance on simple forms of online advertising as main revenue source	Use of multiple sophisticated advertising approaches and better integration of e-commerce with existing business processes and strategies
Distribution of digital products	Widespread piracy due to ineffective distribution of digital products	New approaches to the sale and distribution of digital products
M-commerce	Very limited capabilities of mobile phones	Widespread use of smartphones
First-mover advantage	Rely on first-mover advantage to ensure success in all types of markets and industries	Realize that first-mover advantage leads to success only for some companies in certain specific markets and industries

Advantages of e-commerce

- E-commerce can increase sales and decrease costs
- Increases sales opportunities for the seller and purchasing opportunities for the buyer
- Provides buyers with a wider range of choices than traditional commerce
- Ability to deliver digital products online
- Contribution to general welfare of society

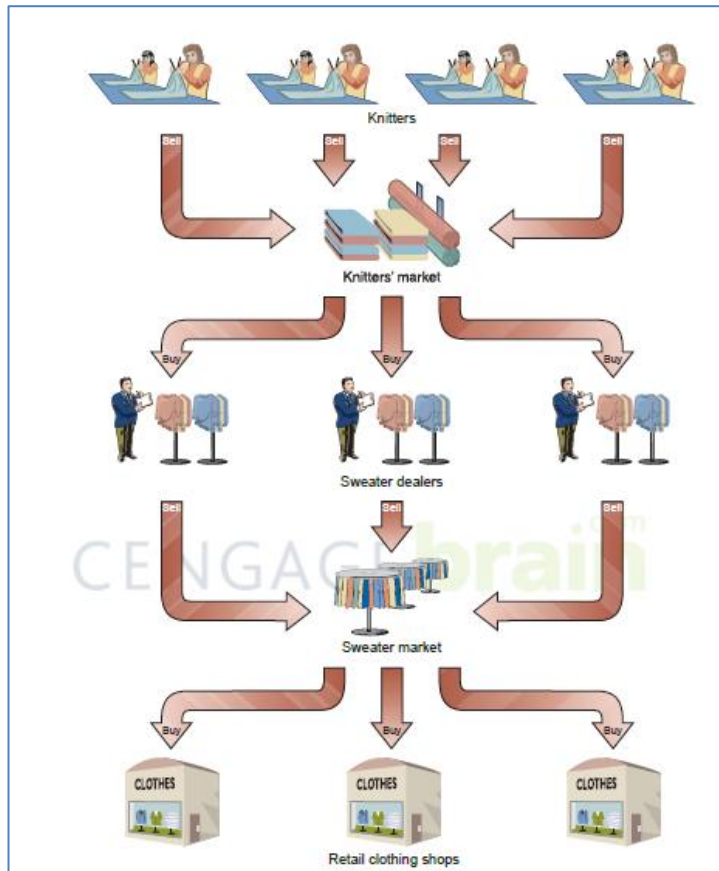
Disadvantages of e-commerce

- Return-on-investment of e-commerce have been hard to quantify
 - costs are a function of technology, can change dramatically
- Difficulty of integrating existing databases and processing software designed for traditional commerce into the software that enables e-commerce
- Cultural and legal obstacles to conducting e-commerce

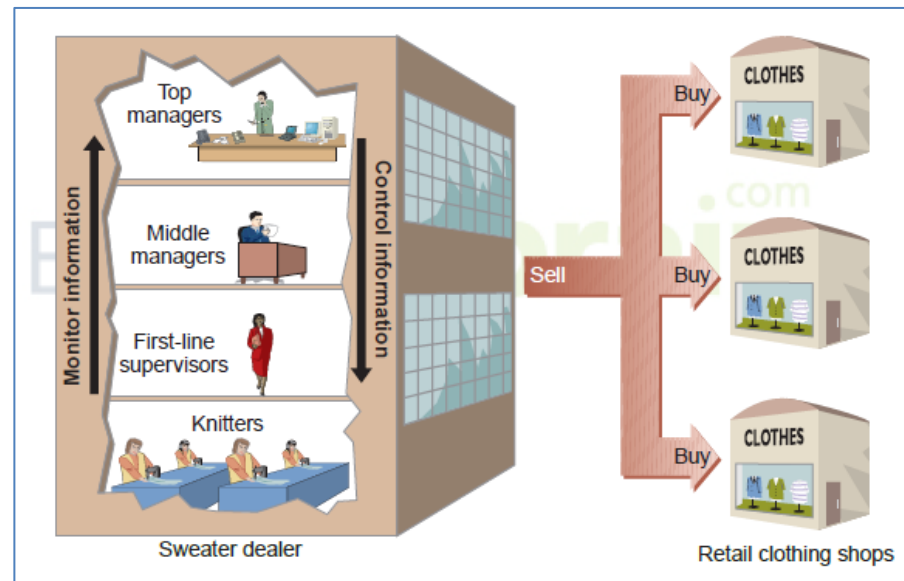
Economics and e-commerce

- **Transaction costs** are the main motivation for moving economic activity from *markets* to *hierarchically* structured firms (Ronald Coase, Nobel laureate, 1937)

Transaction costs are the total of all costs that a buyer and seller incur as they gather information and negotiate a purchase-and-sale transaction.



Market form of economic organization



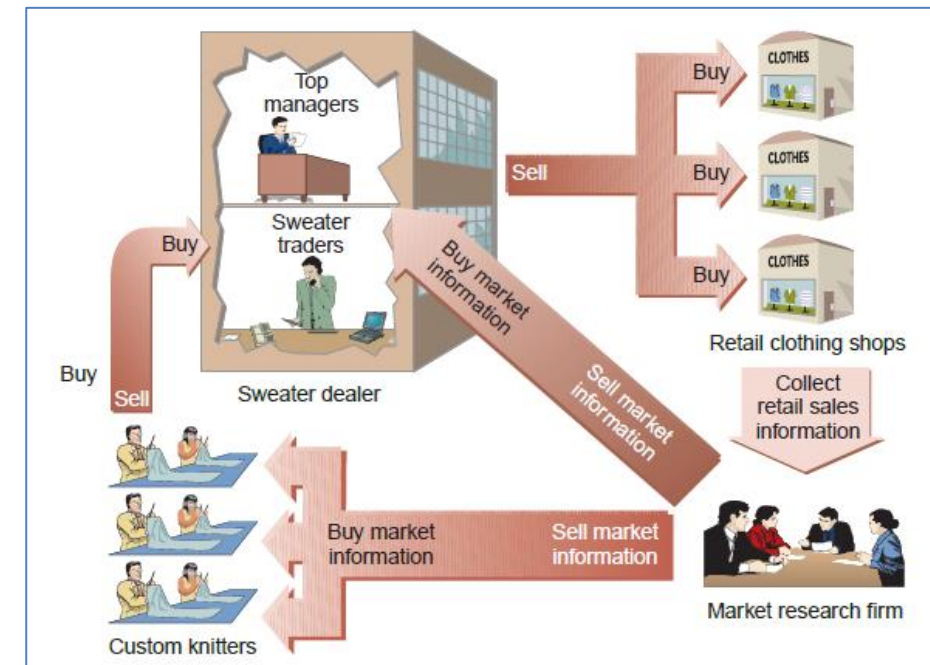
Hierarchical form of economic organization

Some transaction costs

- brokerage fees and sales commissions
- cost of information search and acquisition
- investment a seller makes in equipment or in the hiring of skilled employees to supply the product or service to the buyer

How e-commerce reduces transaction costs

- E-commerce *creates network effects* to help:
 - improving the flow of information
 - increasing the coordination of actions
- Network economic structures
 - strategic alliances (strategic partnerships)
 - companies' coordination of their strategies, resources, and skill sets by forming longterm, stable relationships with other Co's and individuals based on shared purposes
 - virtual companies
 - strategic alliances among companies operating on the Internet



Network effects

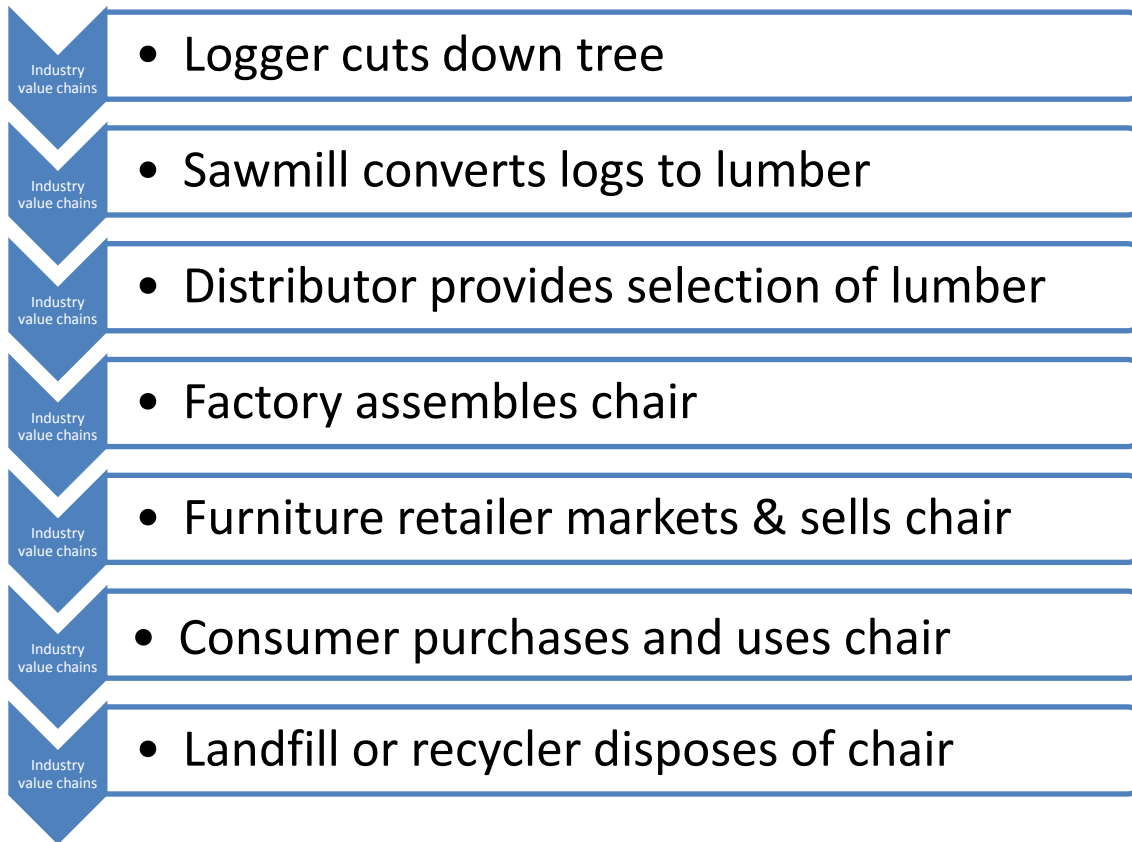
- The law of diminishing returns
 - most activities yield *less* value as the amount of consumption *increases*
 - example: consumption of food, preparation for exams,...
- Network effect
 - as *more* people or organizations participate in a network, the value of the network to each participant *increases*
 - example: use of phone
- E-commerce *creates network effects*
 - example: e-mail, social networks

Complexity of networks for economic decisions

- In the *network economic structures* Internet technologies can improve *so many* business processes that it can be *difficult* to decide where and how to use them
- Strategic business unit value chains
 - **strategic business unit (SBU)** - an autonomous part of company; *large enough to manage itself* but *small enough to respond quickly* to changes in its business environment
 - **value chain** - way of organizing its primary & secondary activities,
 - primary activities: each SBU undertakes to design, produce, promote, market, deliver & support its products/services
 - secondary activities: human resource management & purchasing

Industry value chains

Industry value chain for a wooden chair



- Every product / service has an industry value chain that can be identified and analyzed for economic opportunities
- Creating industry value chain
 - start with the inputs to SBU
 - work backward to identify its suppliers' suppliers, then the suppliers of those suppliers, and so on
 - add customers and work forward to identify customers' customers, then the customers of those customers, and so on

SWOT analysis

- SWOT - strengths, weaknesses, opportunities, and threats

Strengths	Weaknesses
<ol style="list-style-type: none">1. What does company do well?2. Is the company strong in its market?3. Does the company have a strong sense of purpose and culture to support that purpose?	<ol style="list-style-type: none">1. What does the company do poorly?2. What problems could be avoided?3. Does the company have serious financial liabilities?
Opportunities	Threats
<ol style="list-style-type: none">1. Are industry trends moving upward?2. Do new markets exist for the company's products / services?3. Are there new technologies that the company can exploit ?	<ol style="list-style-type: none">1. What are competitors doing well?2. What obstacles does the company face?3. Are there troubling changes in the company's business environment (technologies, laws, regulations)?

SWOT analysis case: Dell

Dell – pioneer in e-commerce and direct sale; one of largest world's PC vendor

Strengths	Weaknesses
<ol style="list-style-type: none">1. Sell directly to consumer2. Keep costs below competitors' costs (Compaq (HP) and IBM)	<ol style="list-style-type: none">1. No strong relations with computer retailers
Opportunities	Threats
<ol style="list-style-type: none">1. Consumer desire for one-stop shopping2. Consumers know what they want to buy3. Internet could be a powerful marketing tool	<ol style="list-style-type: none">1. Competitors have stronger brand names2. Competitors have strong relations with computer retailers