

Measuring Electronic Business



Center for Strategic and International Studies

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Presented by Thomas L. Mesenbourg

tmesenbo@census.gov

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Helping You Make Informed Decisions

Agenda

- **Measurement Framework**
- **Measurement Activities Overview**
 - Present, Future & Unfunded
- **Lessons Learned**
- **Opportunities to Help**



Digital Economy Measurement Framework

E-Business Infrastructure

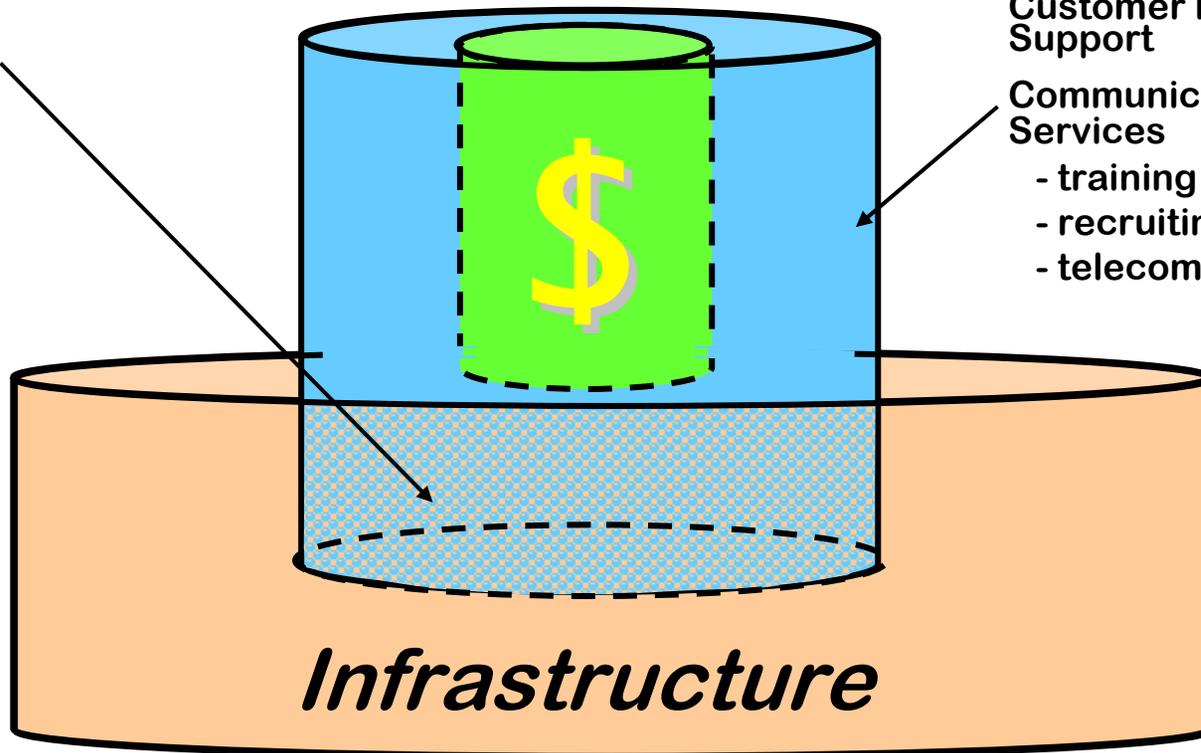
Hardware
Software
Telecommunication
Networks
Human Capital

E-Commerce Transactions

Online sales

E-Business Processes

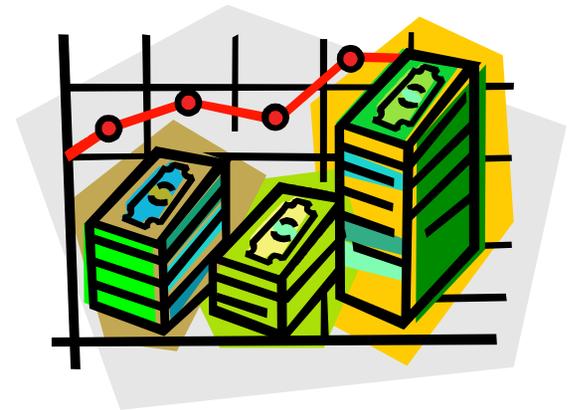
Online Purchasing
Ordering
Production Management
Customer Management &
Support
Communication & Support
Services
- training
- recruiting
- telecommuting



Underlying Concepts

E-Business Processes

- **E-business processes of interest because**
 - change the ways organizations operate and conduct business
 - lower transaction costs, improve efficiency
 - change relationships with suppliers and customers
 - change industry structure
 - affect economic measures



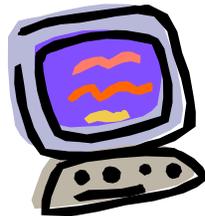
E-commerce Definition

- The value of goods and services sold online
 - Payment does not have to be made online
 - Will not measure transactions without a price
 - Collect e-commerce data from the seller perspective



E-commerce Definition (continued)

- **Online includes electronically linked devices communicating interactively over open and closed networks.**
 - **Devices include computers, personal digital assistants, cable TV, internet-enabled cellular phones, and interactive telephone systems.**
 - **Includes Internet, intranets, extranets, and Electronic Data Interchange networks.**



Census Bureau Initial Measurement Activities

- **Produce first official measures of retail e-commerce - initial release 3/2/2000**
- **Provide baseline e-commerce measures for key sectors - 1999 3/7/2001**
- **Produce baseline manufacturing business process use information 6/8/2001**
- **Research re how e-business processes are changing supply chains**
- **See *www.census.gov/estats* for data and papers**

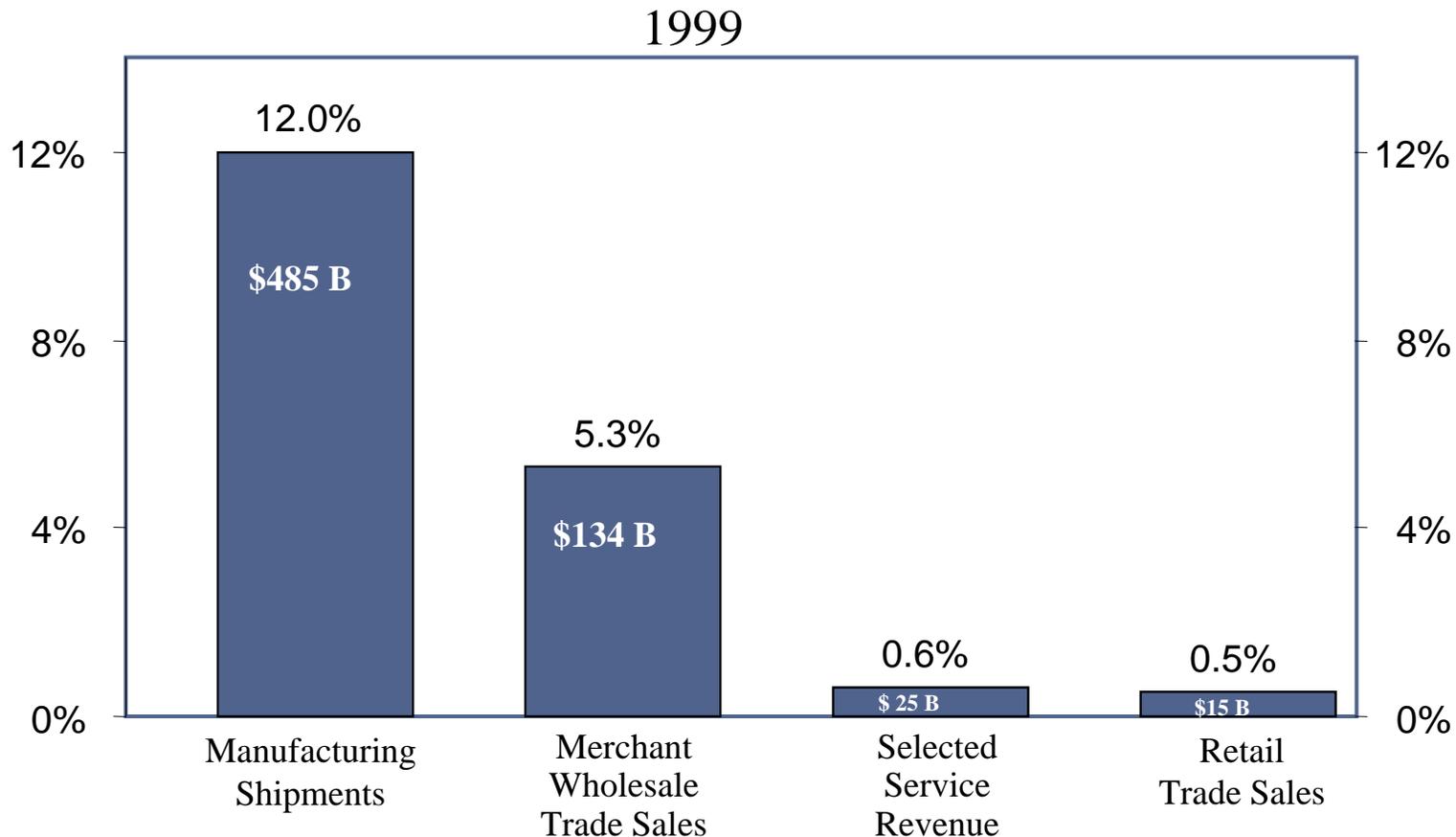
Estimated Quarterly U.S. Retail Sales: Total and E-Commerce

(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
2 nd Quarter 2001 ^p	807,467	7,458	0.92	10.8	-1.8
1 st Quarter 2001 ^r	728,662	7,592	1.04	-10.9	-14.5
4 th Quarter 2000	817,715	8,881	1.09	5.8	28.7
3 rd Quarter 2000	772,796	6,898	0.89	0.6	15.3
2 nd Quarter 2000	777,819	5,982	0.77	8.9	8.3
1 st Quarter 2000	714,425	5,526	0.77	-9.1	4.9
4 th Quarter 1999	785,869	5,266	0.67	8.6	(NA)

NA = Not available. r = Revised. p = preliminary

E-commerce Percent for Economic Sectors



Source: U.S. Census Bureau, E-Stats Report
March 2001



UNITED STATES DEPARTMENT OF COMMERCE

E-Stats

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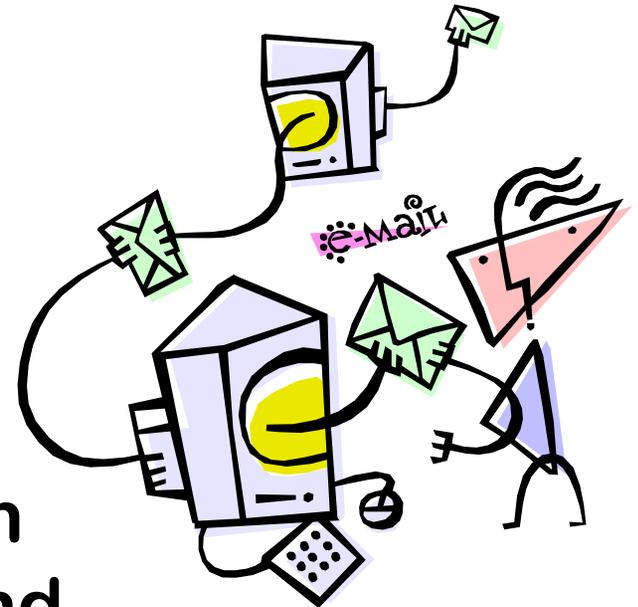
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Manufacturing E-business Process Use Data

- **Online orders account for 12% of all shipments**
- **Online purchases account for 11% of total cost of materials**
- **87% of responding manufacturing plants had computer network in place**
- **84% of responding plants had Internet access**

Manufacturing E-business Process Use Data (continued)

- **Plus information on:**
 - online payments
 - online customer support
 - type of network used for accepting orders
 - e-mail communication with vendors and customers and with employees



Future E-Stats Products & Activities

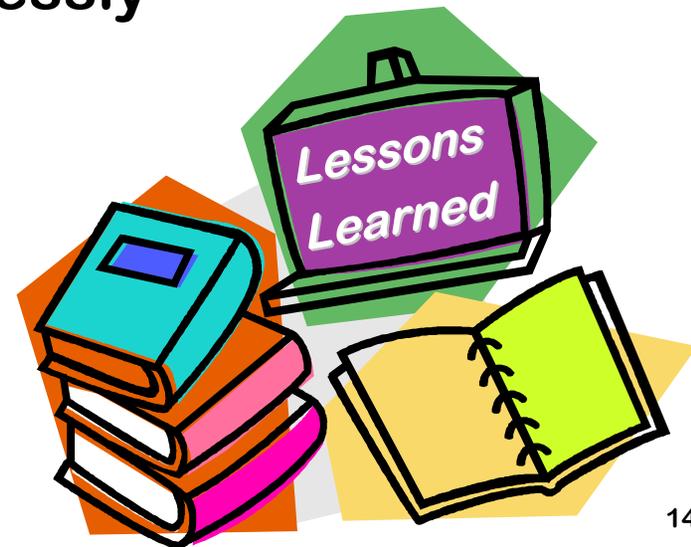
- **E-Stats 2000 E-commerce Multisector Report**
 - Wholesale EDI separately identified
 - February/March 2002
- **Internet reporting will be offered to 3.5 million businesses in 2002 Economic Census**
- **2002 Economic Census**
 - E-commerce data
 - Supply chain activity
- **E-Gov data for 2002 Census of Governments**
 - Infrastructure expenditures
 - IT staffing resources
 - E-gov processes

E-Stats Measurement Activities Requiring Additional Resources

- **Continue manufacturing e-business process use data for post-1999 or extend to other sectors**
- **Conduct supply chain survey**
- **Cover B2B e-markets and other nonmerchant wholesalers annually**
- **Implement e-business infrastructure measures**

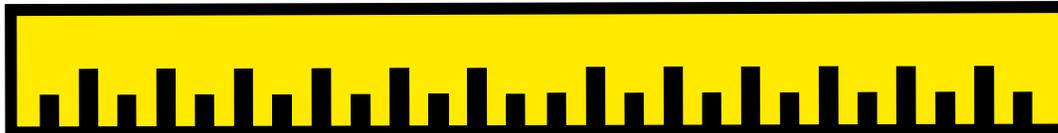
Lessons Learned

- **Definitions and concepts are important**
 - more examples the better
 - technical jargon vs. language clear to non-technicians
 - cognitive interviews useful
 - network and “steal shamelessly”



Lessons Learned (continued)

- **Measures can be problematic**
 - e-commerce measures for services tougher
 - e-business processes measurement challenges
 - little experience
 - processes vary by sector
 - use measure straightforward
 - process impact/effects complicated
 - infrastructure measures -- just getting started



Lessons Learned (continued)

- **Statistical unit/survey instruments place significant constraints on what you can collect**
 - accountants not familiar with processes
 - infrastructure measures more likely available for company, not establishment
 - longstanding reporting arrangements can complicate delivery of targeted surveys

Lessons Learned (continued)

- **E-business Research**
 - contract with experts, not generalists
 - cross-sectoral supply chain research has paid major dividends
 - translating research findings into programs not straightforward
- **NAICS 2002 does good job of identifying e-businesses, but won't fully describe what they are doing - need product data**

Lessons Learned (continued)

- **Start modestly, leverage existing resources**
 - can do something with existing instruments
 - expansion will require additional resources

- **Don't expect lots of feedback on measurement priorities or measures**
 - rapid changes occurring
 - no definitive source of expertise

Opportunities to Help

- **Improved Infrastructure Measures**
 - identify data needs
 - establish priorities
- **E-Gov Measures**
 - feedback on questions
 - priorities
- **Supply Chain Analysis**
 - identify existing studies
 - what chains should we target
 - methodology suggestions



Questions and Answers



tmesenbo@census.gov