

B211 Internet Computing

The Internet for E-Commerce

Lecture Outline

- What is E-Commerce?
- Issues in B2C and B2B E-Commerce
- Statistics on current state of E-Commerce in Australia and around the world

Electronic Commerce (E-Commerce)

- The term *electronic commerce* is used to refer to any business or commercial activities making use of the computers and data networks, including the Internet.
- The opportunities for using the Internet in business include:
 - cheaper online product distribution
 - enhancing customer and supplier contact
 - improving the efficiency of internal operations
 - improving the efficiency of between business processes

Business Efficiencies and Cost Savings through E-Commerce

- Communication
 - time and money saved using e-mail instead of other communications channels such as telephone, fax or face-to-face discussions.
 - Dissemination of information through WWW.
- Marketing
 - Use their website as a business brochure. Most businesses now print and post fewer brochures, instead direct customers to their website.

Business Efficiencies and Cost Savings through E-Commerce

- Transaction
 - Purchase,
 - Staff salaries payments,
 - Buyers-Suppliers data and product exchange

Constraints to E-Commerce on the Internet

- Security
- Platform standardization
- Bandwidth and data traffic characteristics
- Different national censorship laws
 - for employees
 - for customers
- Measurement tools for effectiveness

B2C and B2B

- The term *business-to-customer (B2C)* refers to those aspects of e-commerce that links businesses to their current and potential customers.
- The term *business-to-business (B2B)* refers to those aspects of e-commerce that links different businesses together

Common steps in E-Commerce Adoption

- Connect existing work-stations to the Internet in order to use e-mail and web.
- Develop a website as a way of marketing the business.
- Source more competitive suppliers and gain direct access to customers without the need for intermediaries
- Offer online payment, invoicing and billing services.

Implementation Problems

- Finding information about how to systematically adopt e-commerce.
- Finding the right developer or development team.
- Keeping their website fresh to encourage customers to return.
- Lack of widespread online presence
 - cannot not maximise e-commerce benefits if majority of company's suppliers and customers are not yet using the Internet to transact business.

B2C E-Commerce

- B2C involves enabling a customer to electronically
 - access product information,
 - select items to purchase,
 - purchase items securely, and
 - have the purchase settled financially.

B2C Web-site Approaches for Different Products

- Gifts and Impulse Products
 - Customers main behaviour is browsing
 - you may want to design a site that's easy and entertaining to explore, and easy to buy and receive items.
- Commodity Products
 - Books, CDs, etc
 - Products differentiated by their products' price, selection, and availability.
 - Web-site must offer value-adding features to entice customers shop there: personalized customer service, product search capabilities, ease of purchase and shipping, etc

B2C Web-site Approaches for Different Products

- Considered Purchase Products
 - Consumer electronics, cars, cellular phones, etc.
 - Differentiated by product features
 - Web-site should offer product feature information, especially in comparison to competitors' products.
- Configurable Products
 - Computer workstations and servers
 - Interactive selection and mixing-and-matching; pricing information; easy ordering of configured product.

B2C Models

- There are many ways to use the web to enhance customer contact. We will discuss a few popular ones:
 - Poster/Billboard model
 - Using a web-site to advertise key information about the business, so that customer can take further action.
 - Eg. information on store address, upcoming discounts, contact e-mail links, etc.
 - A low-cost model, but only effective if used to *supplement* other primary advertising
 - other advertising should refer to the web-site address and e-mail

B2C Models (cont'd)

- On-line Yellow Pages model
 - Using (part of) a web-site as general information listing.
 - Increases the company's profile since it is the place of visit for users wanting the required information.
 - Needs very frequent updates.
- Virtual Storefront model
 - Put up a web-site where every aspect of a store's operations is available
 - Including advertising and promotional material, on-line purchasing, customer support
 - Most products still requires physical postage and delivery, but there are some which can be delivered on-line, including information (eg. reports) and software.
 - With the developments of multimedia technologies, there is a growing market for entertainment products (movies, music, etc) as well.

B2C Models (cont'd)

- Subscription model
 - Based on publishing world.
 - Products delivered on a regular basis subject to subscriptions fees.
 - Products involves regular updates. Eg newspapers and magazines.
- Advertising model
 - Offer a primary service for free (or at a very low cost), and make money through advertising on the site.
 - Eg. search engines, free internet access.
 - The service needs to draw in enough users to be attractive for advertisers.

B2C Models (cont'd)

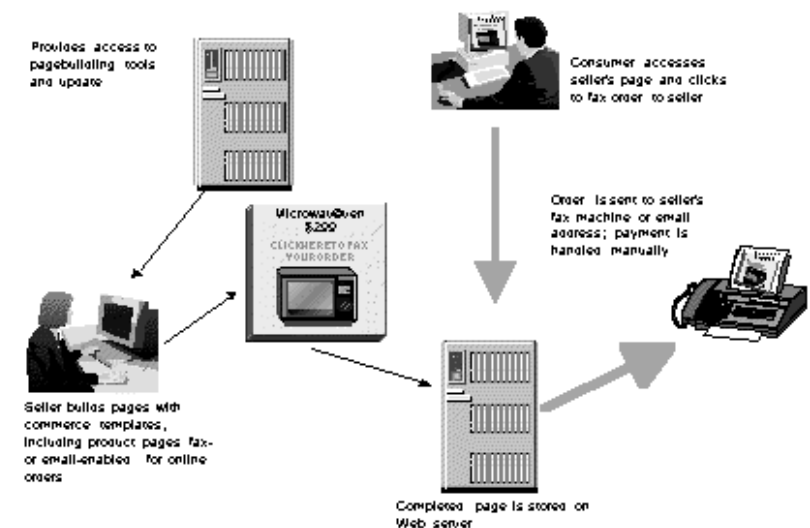
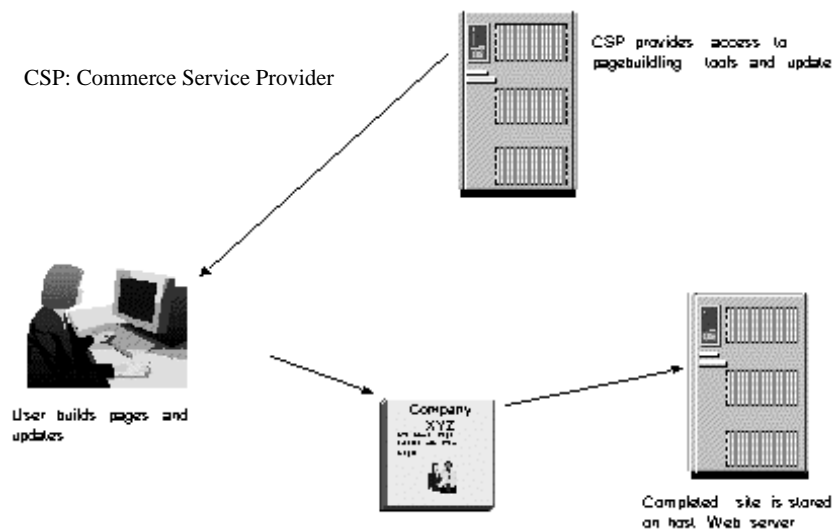
- Auction and Reverse Auction models
 - Auction: Use a web-site to auction items
 - Reverse auction: buyers sets a price, sellers decide whether they want to sell
- Portal model
 - A single web-site offering a variety of Internet services.
 - Aims to keep the users' Internet experience completely within the portal
 - Tied to the concept of creating a *walled garden*.
- Other business models exists, and no doubt new ones will arise.

B2B vs B2C

- B2B e-commerce may on the surface be seen as a version of B2C e-commerce (where one business acts as the consumer), but there are fundamental differences:
 - Consumer responsibilities are clear, business responsibilities are not
 - Sharing of information is key - trust is critical
 - Different payment processing
 - Adjusting to different business practices
 - Security considerations

Some example E-Commerce Set-ups

- Source:
 - http://www.iec.org/online/tutorials/e_commerce/topic03.html?Next.x=43&Next.y=19
- Set-ups in large enterprises today are much more complicated than these and include a lot more components.





Seller builds site with commerce-enabled product pages



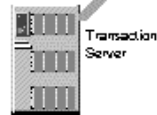
Consumer accesses seller's site. When 'Buy' button is selected, secure session established with transaction server



Transaction server sends order to seller via secure fax or email



Completed Web pages are stored on Web server.



Transaction Server



Web Server



Sellers build catalog with catalog-building tools, generating flat HTML pages and data to populate e-catalog database.

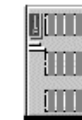


Consumer accesses seller's site via browser. Static pages are displayed directly by commerce server. Dynamic pages are generated from database.



AB1	1 meg. box	\$500
AB2	2 meg. box	\$400
AB3	3 meg. box	\$300
AB4	4 meg. box	\$200

Catalog data for multiple seller sites is stored in database. Individual catalog data is updated by seller or service provider

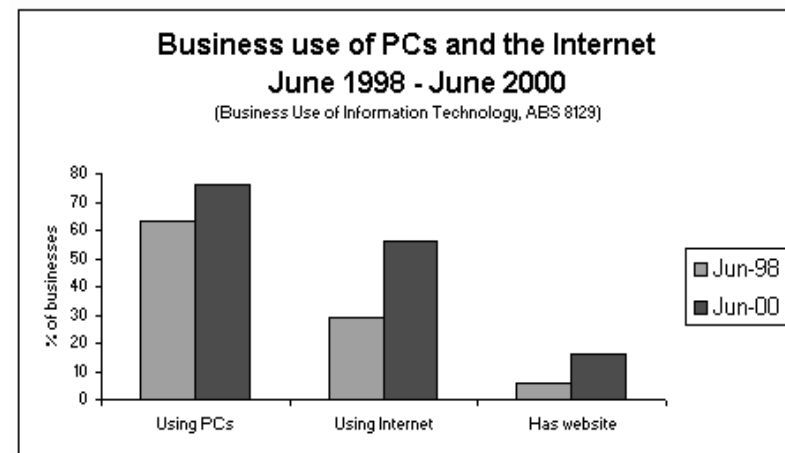


Commerce server with catalog database

Commerce server sends order to seller via encrypted email or EDI

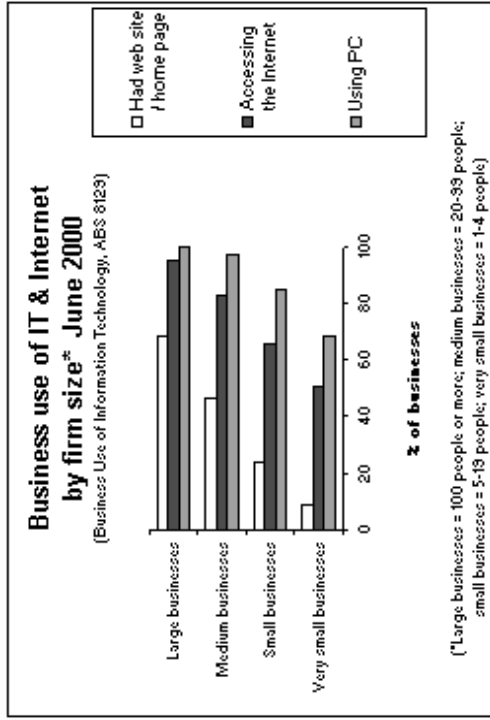
E-Commerce in Australia

- In the following pages, we will consider the issues by looking at statistics on the current state of e-commerce in Australia.

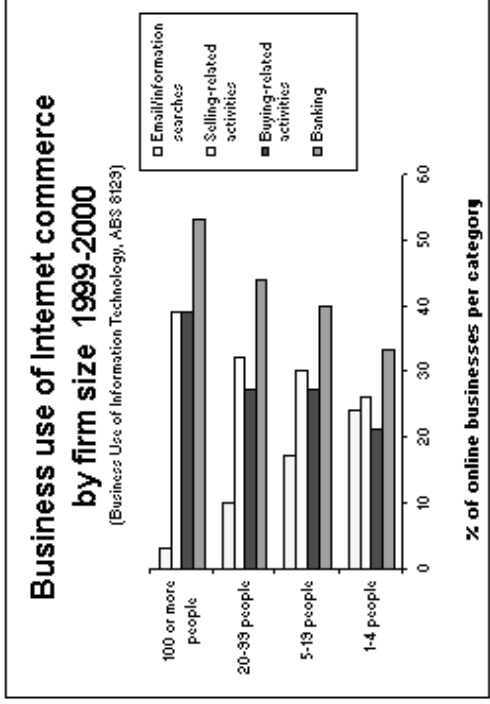


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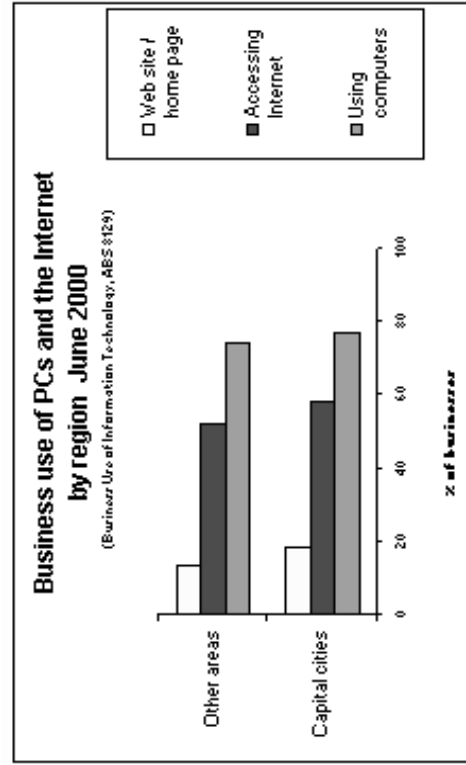
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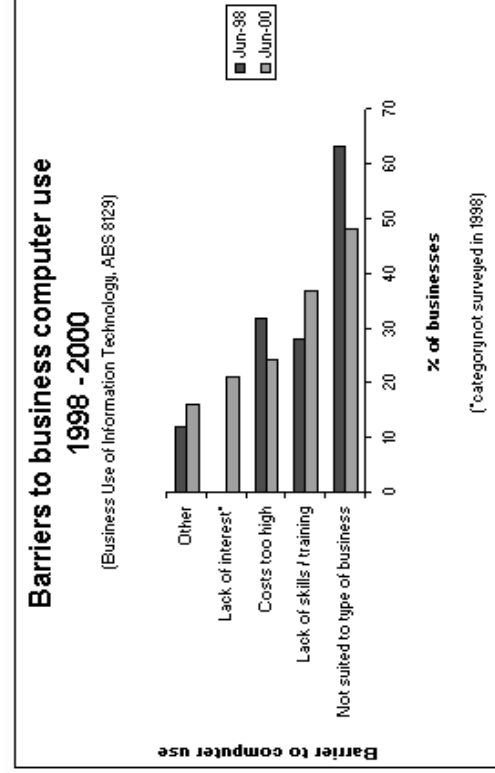
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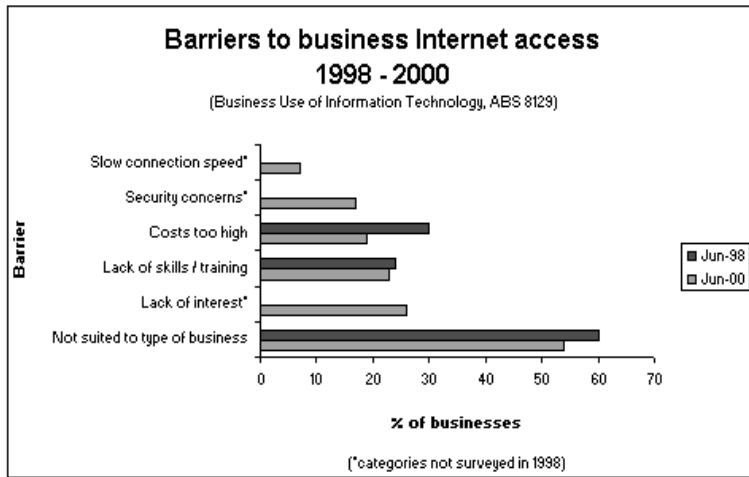
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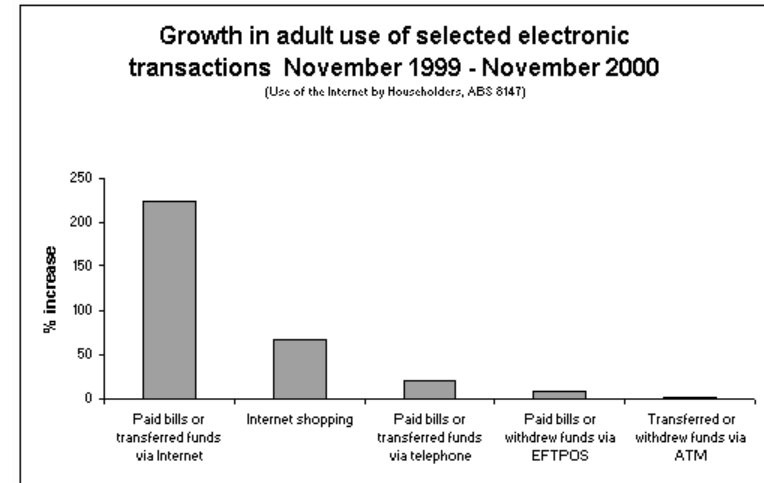
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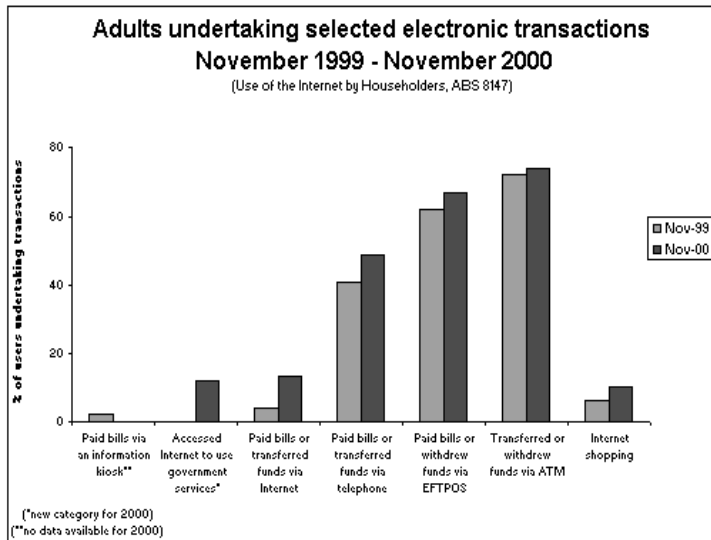
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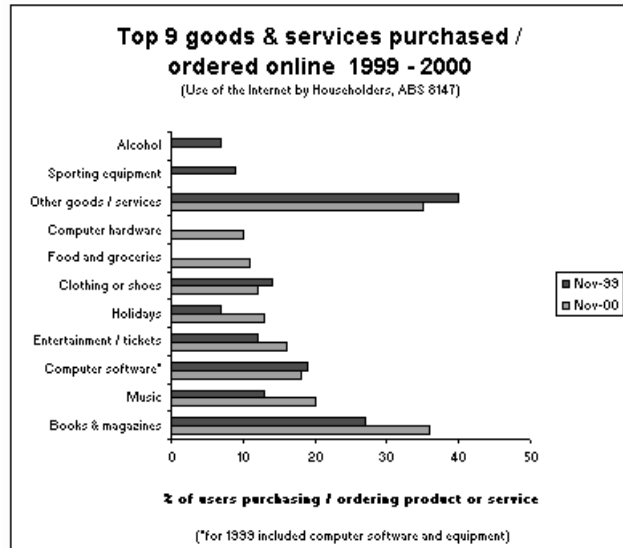
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The Internet Customer

- Compared to the average customer, customers who shop on the Internet generally:
 - have higher income,
 - have higher education,
 - live in urban areas.



Source: http://www.onlineaustralia.net.au/projects/information_economy/research&analysis/ie_stats/CSOP_June2001/Intensity/intensity4.htm

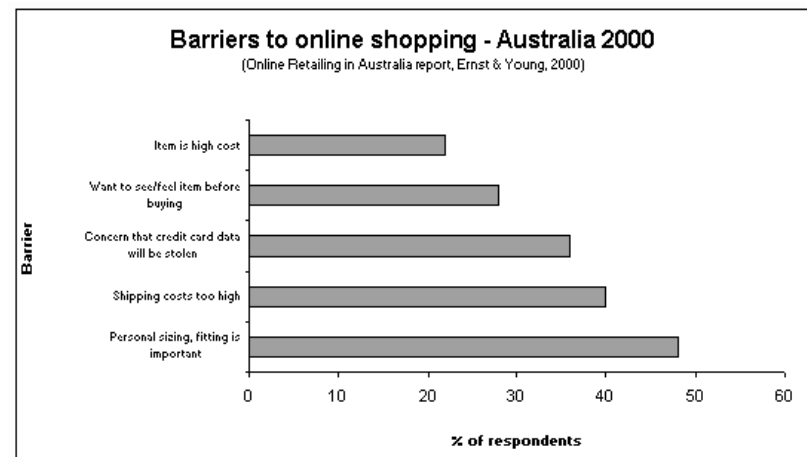
Leading Products or Services Purchased Online:

Ranking	Australia	US	Great Britain	Germany	Hong Kong	Japan
1	Books & Magazines	Clothes	Books	Books	Food	Books
2	Music	Music/CDs	Music/CDs	Clothes	Books	Clothes
3	PC Software	PC Software	PC Hardware	Music/CDs	Furniture	Food
4	Entertainment / tickets	Books	PC Software	PC Software	PC Hardware	Toiletries
5	Holidays	Tickets	Clothes	Electronics	PC Software	Leisure Travel
6	Clothing / Shoes	Leisure Travel	Tickets	PC Hardware	Tickets	Toys / Games

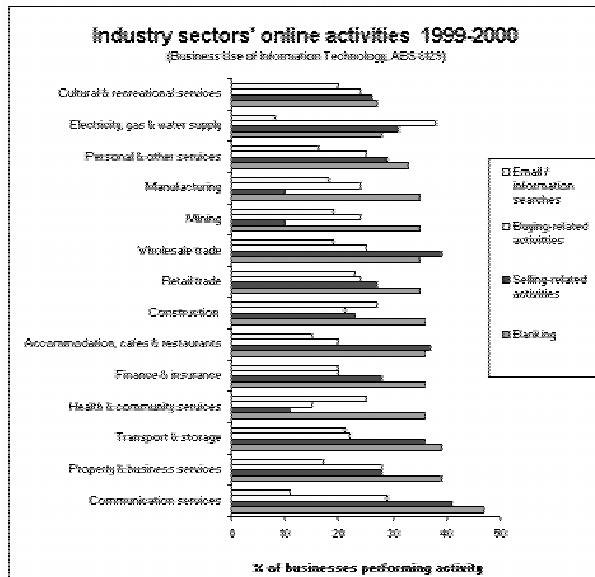
Source: Taylor Nelson Sofres *Interactive Global E-commerce Report 2000*
 ABS November 2000 *Use of the Internet by Householders Survey*



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E-Commerce Establishment Costs in SMEs

- In *Advancing with E-Commerce*, a recent government report of case studies on e-commerce by small and medium size enterprises (SMEs) in Australia.
 - Average investment for all businesses in the case studies: \$24,000.
 - 65% of the businesses spent less than \$15,000 (33% spent less than \$5,000).
 - Investments as a percentage of total costs:
 - Web Development (including staff training): 59
 - Hardware and software: 38
 - Domain Name: 1
 - Telephony: 3

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Ongoing E-Commerce Costs

- In the same report, the identified cost components as percentage of total ongoing e-commerce costs:
 - Website maintenance: 54
 - Telephony for ISP access: 19
 - ISP and website hosting: 9
 - Direct costs (staff handling online transactions): 5
 - Responding to e-mail: 4
 - Advertising: 3
 - Software license fees: 3
 - Opportunity cost: 2
 - Bank fees: 1

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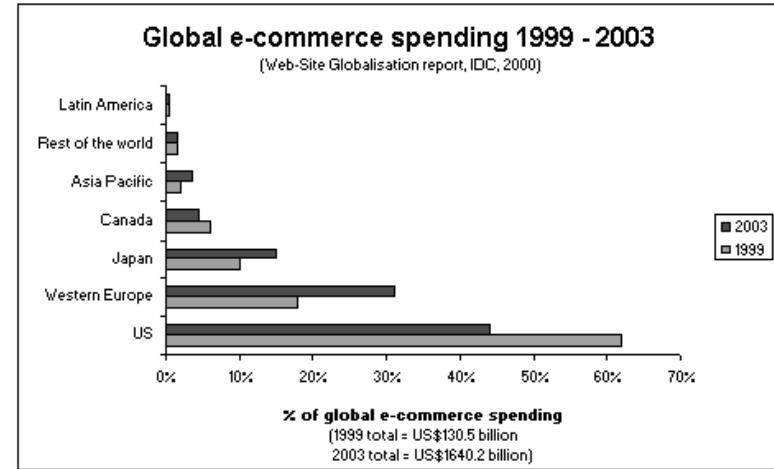
E-Commerce Costs

- In an Australian Bureau of Statistics survey in June 2000, many businesses viewed the prospects for further developing their web sites being limited.
- Of these 58,000 businesses:
 - 33% reported cost as a factor in limiting the future development of their web site;
 - 26% reported the low level of e-commerce take up by their customers/ suppliers;
 - 24% reported lack of skills;
 - 15% reported security related concerns; and
 - 10% reported factors relating to the quality and reliability of Internet infrastructure.

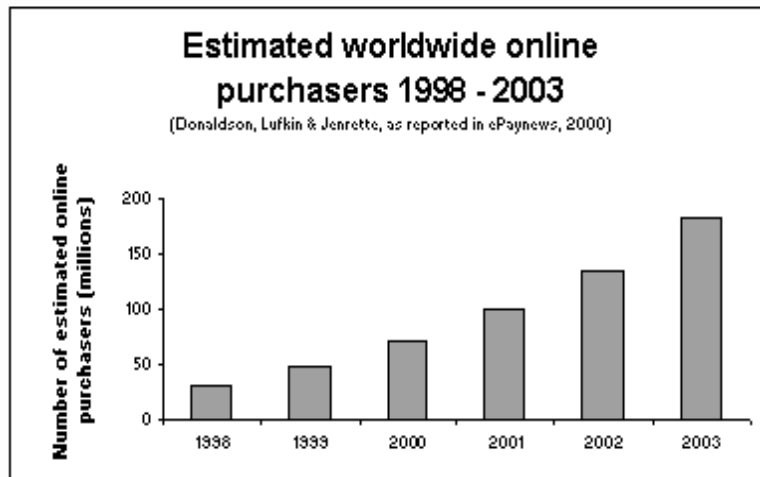
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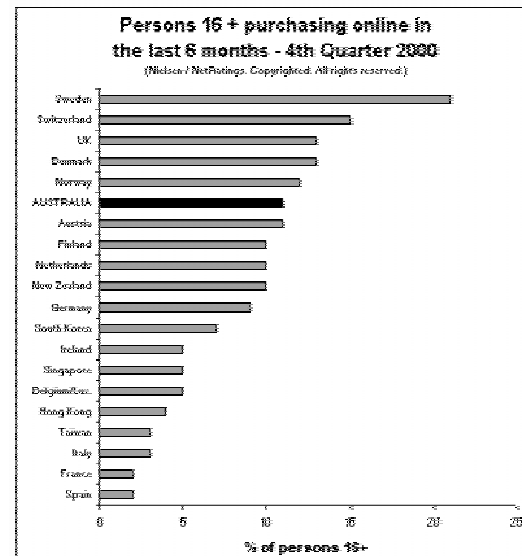
E-Commerce Around the World



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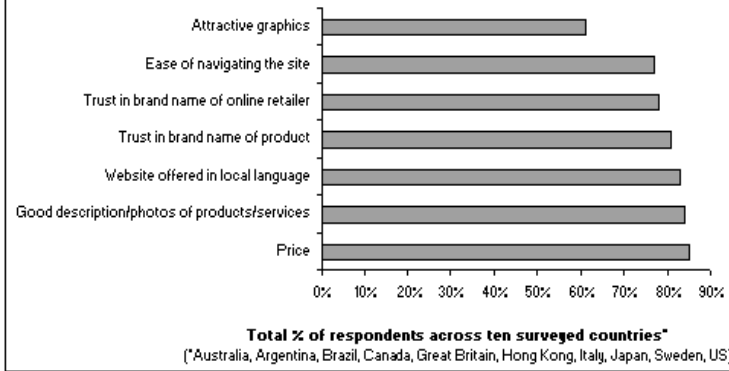
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Factors influencing online shopping - 2000

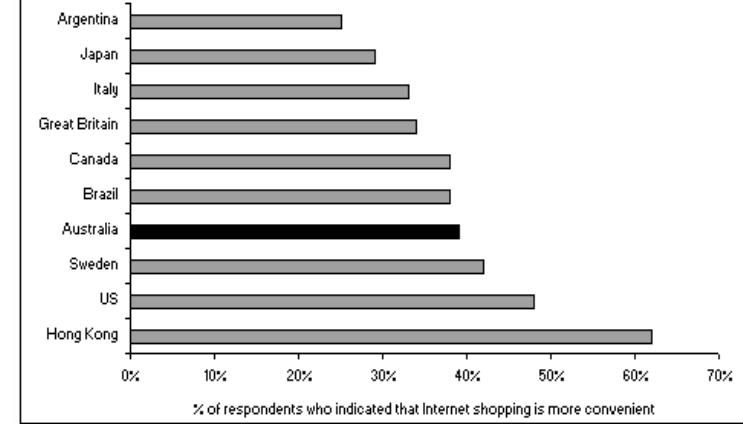
(Online Attitudes Move in Line Across the Globe Survey Report, American Express, October 2000)



Source of diagram:
http://www.onlineaustralia.net.au/projects/information_economy/research&analysis/ie_stats/CSOP_June2001/Intensity/intensity6.htm

Convenience of Internet shopping 2000

(Online Attitudes Move in Line Across the Globe Survey Report, American Express, October 2000)

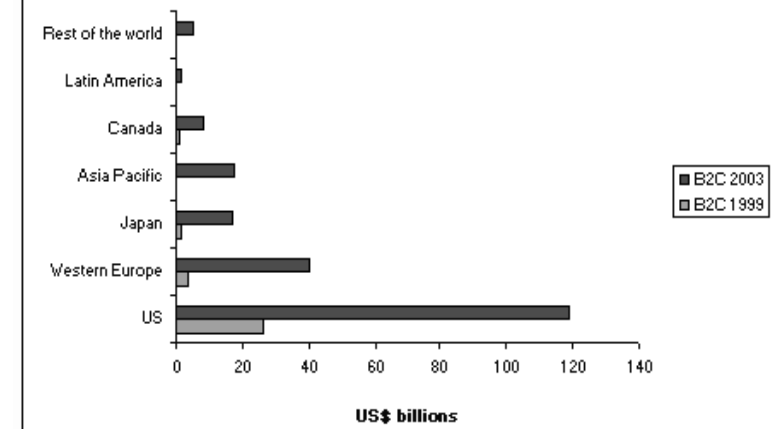


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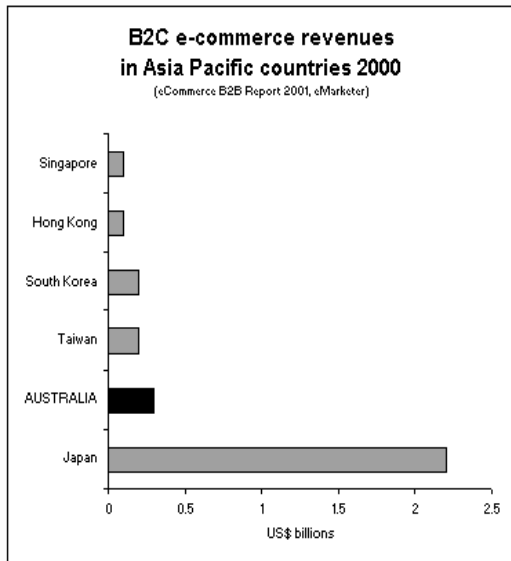
Impact of E-Commerce

B2C global e-commerce revenues 1999 - 2003

(Web-Site Globalisation Report, IDC, 2000)



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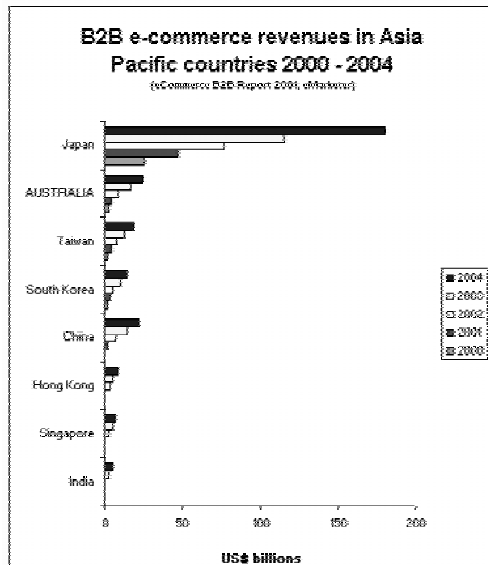


Australia: US\$300 million

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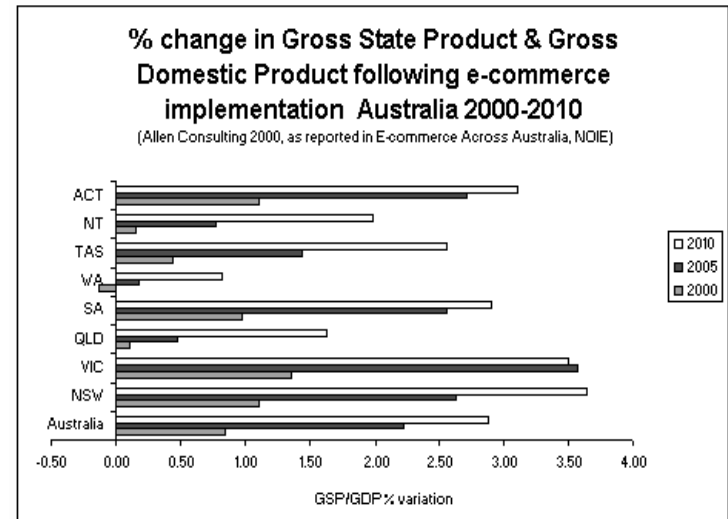


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Australia:
 2000: US\$2.3 billion
 2004: US\$25 billion



Source:
http://www.onlineaustralia.net.au/projects/information_economy/research&analysis/ie_stats/CSOP_June2001/Impact/impacts1.htm

Further Reading

- A tutorial on setting up e-commerce for a business:
 - <http://hotwired.lycos.com/webmonkey/e-business/tutorials/tutorial3.html>
- For more statistics, refer to the National Office of Information Economy's June 2001 *Current State of Play Report*
 - http://www.onlineaustralia.net.au/projects/information_economy/research&analysis/ie_stats/CSOP_June2001/start.htm

Further Studies

- If you are interested in the area of the Internet and businesses, look up the unit *B332 Electronic Commerce and Virtual Organisations* and the degree *Bachelor of Electronic Commerce* in the university handbook.

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