E-business

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• Primary Text:

E-business and E-commerce Management, 4th Edition, © Marketing Insights Limited 2009 Dave Chaffey

SUPPORTING TEXT:

Laudon, K. C. and Laudon, J. P. (2012/2013) *Management Information Systems: Managing the Digital Firm.* 12th/13th/14th Edition, Pearson Education Inc., Upper Saddle River, NJ 07458.

Chapters 1 and 2

Introduction to e-business and e-commerce

E-commerce fundamentals

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Nike ID – <u>www.nikeid.com</u>



- Electronic Commerce: Sharing business information, managing business relationships and facilitating transactions with Internet technology. (linking buyers and sellers).
- Electronic Business: Executing all the firm's business processes with Internet technology. (sales, finance, human resources, manufacturing)





Figure 1.3 Three definitions of the relationship between e-commerce and e-business



Figure 1.2 The distinction between buy-side and sell-side e-commerce



Figure 1.13 A simple stage model for buy-side and sell-side e-commerce





E-BUSINESS MODELS

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Figure 1.7 Evolution of web technologies

Source: Adapted from Spivack (2007)

Business model

Timmers (1999) defines a 'business model' as:

An architecture for product, service and information flows, including a description of the various business actors and their roles; and a description of the potential benefits for the various business actors; and a description of the sources of revenue.

E-business Revenue Models

- A revenue model specifies how the firm intends to make money
 - Pay for service: The firm offers a product or a service for sale
 - **Subscription**: Customers pay for the right to access the content
 - Advertisement support: The firm makes its content or service free for a large audience and sells access to its audience to interested advertisers
 - Affiliate: The firm generates revenue from a third-party based on traffic it send to the partner web site.
 - Freemium: The firm gives away its product or service for free, and attempts to build a large customer base by reducing the obstacle created by the payment

E-business Models

1. Social Network

- Online meeting place
- Social shopping sites
- Can provide ways for corporate clients to target customers through banner ads and pop-up ads

2. Online marketplace:

 Provides a digital environment where buyers and sellers can meet, search for products, display products, and establish prices for those products.





E-business Models

3. Content provider

 Providing digital content, such as digital news, music, photos, or video, over the Web – yahoo,

4. Service provider

• Provides Web 2.0 applications such as photo sharing and interactive maps, and services such as data storage - google maps, flickr,

5. Portal

 "Supersite" that provides comprehensive entry point for huge array of resources and services on the Internet – yahoo

6. Blogs

 Personal web pages that contain series of chronological entries by author and links to related Web pages – wordpress.com

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E-business Models

Yahoo makes its money selling online ads.

Yahoo's reach is enormous: 600 million unique visitors a month. Google is doing great right now, Yahoo is not.

If Yahoo is in some kind of a problem today, it's because they have tried to wear other people's clothes that were mostly falling down their ankles. Yahoo wanted to be many things, from Media Company to Myspace. Lack of focus and direction made them languish.

Google on other hand has worked towards being a knowledge-based company and not just search. This does not mean they have not done anything wrong or failed, but they have a permission-to-fail policy.

E-business Models

7. Virtual storefront:

• Sells physical products directly to consumers or to individual businesses – prada.com, best buy

8. Information broker:

 Provides product, pricing, and availability information to individuals and businesses – kbb.com, pricerunner.co.uk, nexttag.com

9. Transaction broker:

 Saves users money and time by processing online sales transactions and generating a fee for each transaction – expedia.com, etrade.com



Types of E-business

- Business-to-consumer (B2C)
- Business-to-business (B2B)
- Consumer-to-consumer (C2C)
- Government-to-citizen (G2C)
- Government-to-government (G2G)
- Government-to-business (G2B)
- Mobile commerce (m-commerce)

From:	Supplier	of	content/	service
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	Consumer or citizen	Business (organization)	Government
ce Consumer or citizen	Consumer-to-Consumer (C2C) eBay Peer-to-Peer (Skype) Blogs and communities Product recommendations Social networks: MySpace, Bebo 	 Business-to-Consumer (B2C) Transactional: Amazon Relationship-building: BP Brand-building: Unilever Media owner – News Corp Comparison intermediary: Kelkoo, Pricerunner 	 Government-to-Consumer (G2C) National government transactional: Tax – inland revenue National government information Local government services
Consumer or contenusery Business (organization)	 Consumer-to-Business (C2B) Priceline Consumer-feedback, communities or campaigns 	 Business-to-Business (B2B) Transactional: Euroffice Relationship-building: BP Media Owned: Emap business publications B2B marketplaces: EC21 	 Government-to-Business (G2B) Government services and transactions: tax Legal regulations
lo: Government	 Consumer-to-Government (C2G) Feedback to government through pressure group or individual sites 	 Business-to-Government (B2G) Feedback to government businesses and non- governmental organizations 	 Government-to-Government (G2G) Inter-government services Exchange of information

Figure 1.8 Summary and examples of transaction alternatives between businesses, consumers and governmental organizations



Figure 2.5 B2B and B2C interactions between an organization, its suppliers and its customers

B₂B and B₂C characteristics

Characteristic	B2C	B2B
Proportion of adopters with access	Low to medium	High to very high
Complexity of buying decisions	Relatively simple – individual and influencers	More complex – buying process involves users, specifiers, buyers, etc.
Channel	Relatively simple – direct or from retailer	More complex, direct or via wholesaler, agent or distributor
Purchasing characteristics	Low value, high volume or high value, low volume. May be high involvement	Similar volume/value. May be high Involvement. Repeat orders (rebuys) more common
Product characteristic	Often standardized items	Standardized items or bespoke for Sale

Figure 2.6 Disintermediation of a consumer distribution channel showing (a) the original situation, (b) disintermediation omitting the wholesaler, and (c) disintermediation omitting both wholesaler and retailer



Figure 2.7 From original situation (a) to disintermediation (b) and reintermediation (c)



Business to Consumer - Mediations

- An example of disintermediation is seen in the travel industry where travel agents have been cut out of many transactions as the public can book directly with hotels, airlines and rail companies.
- The travel industry also gives an example of **reintermediation**. Companies like lastminute.com and expedia.com are like new travel agents, presenting a wide choice of products and services.
- An example of **countermediation** is Opodo.com, set up by a collaboration of European airlines to encourage customers to book flights directly with them rather than using cost-comparison intermediaries such as lastminute.com.

Cost/efficiency and Competitiveness drivers

- Cost/efficiency drivers
 - Increasing speed with which supplies can be obtained
 - Increasing speed with which goods can be dispatched
 - Reduced sales and purchasing costs
 - Reduced operating costs
- Competitiveness drivers
 - Customer demand
 - Improving the range and quality of services offered
 - Avoid losing market share to businesses already using e-commerce

Chapter 3

E-business infrastructure

Technology in E-Business

Make a list of the potential problems for customers of an online retailer. You should consider problems faced by users of ebusiness applications who are both internal and external to the organization

Base your answer on problems you have experienced on a web site that can be related to network, hardware and software failures or problems with data quality



Typical problems

- 1. Web site communications too slow
- 2. Web site not available
- 3. Bugs on site through pages being unavailable or information typed in forms not being executed
- 4. Ordered products not delivered on time
- 5. E-mails not replied to
- 6. Customers' privacy or trust is broken through security problems such as credit cards being stolen or addresses sold to other companies

Examples		
ا E-business services – applications layer	CRM, supply chain management, data mining, content management systems	
II Systems software layer	Web browser and server software and standards, networking software and database management systems	
III Transport or network layer	Physical network and transport standards (TCP/IP)	
IV Storage/physical layer	Permanent magnetic storage on web servers or optical backup or temporary storage in memory (RAM)	
V Content and data layer	Web content for intranet, extranet and Internet sites, customers' data, transaction data, clickstream data	

Figure 3.1 A five-layer model of e-business infrastructure

Internet infrastructure components

 Write down all the different types of hardware and software involved from when a user types in a web address such as www.google.com to the web site being loaded





Figure 3.2 Physical and network infrastructure components of the Internet (Levels IV and III in *Figure 3.1*)

- Web addresses are structured in a standard way as follows:
- A **top-level domain** (TLD), also referred to as a "top-level domain name", is the last part of an Internet domain name. Specifically, it is the group of letters that follow the final dot of any domain name.
- For example, **the top-level domain of kwelti.com is .com**

Generic Top-Level Domains (gTLD)

• These are the most common domains that most people have heard of, such as .COM, .ORG, .NET, and .INFO.

Generic-Restricted Top-Level Domains

 Generic-restricted top-level domain names are similar to the generic top-level domains, only eligibility is intended to be restricted and ascertained more stringently.
 Examples are: .BIZ, .NAME, .PRO

Sponsored Top-Level Domains (sTLD)

These domains are proposed and sponsored by private agencies or organizations that establish and enforce rules restricting the eligibility to use the TLD. IANA also groups sTLDs with the generic top-level domains.

Examples include: .AERO, .ASIA, .CAT, .COOP, .EDU, .GOV, .INT, .JOBS, .MIL, .MOBI, .MUSEUM, .TEL, .TRAVEL

Country Code Top-Level Domains (ccTLD)

 Country code top-level domain names are those that are generally used for a specific country or dependent territory. Examples of ccTLDs include: .NZ (for New Zealand), .AU (for Australia), .CN (for China), .IN (for India), .UK (for the United Kingdom), .US (for the United States)

A Second-level domain (SLD) is a domain that is directly below a top-level domain (TLD). For example, in example.com, example is the second-level domain of the .com TLD.

Some countries restrict the second-level domain. For example, **mydomain.uk** is not permitted but **mydomain.co.uk** is permitted.

Country code second-level domains have a pre-defined purpose.

.ac.uk - academic (tertiary education and research establishments) and learned societies.

.co.uk - commercial/general

.gov.uk - government (central and local)

.ltd.uk - limited companies

.me.uk - personal

.mod.uk - Ministry of Defence and HM Forces public sites

.net.uk - ISPs and network companies

.nic.uk - network use only

.nhs.uk - National Health Service institutions

.org.uk - non-profit organizations

HTML and XML

HTML (Hypertext Markup Language)
 A standard format used to define the text
 and layout of web pages. HTML files usually
 have the extension .HTML or .HTM

• XML or eXtensible Markup Language A standard for transferring structured data, unlike HTML which is purely presentational

HTML example

<html> <header> <tittle> Story about China </title> </header> <body> A Chinese peasant farmer's son, who claims he was brutally trafficked into Ireland, was pictured on his €500 iPhone eating crab and drinking red wine at a function in Dublin the High Court has heard.

</body> </html>

XML example

Product>

- <Action Value5"Delete"/>
- <ProductID>118003-008</ProductID>

</Product>

- <Product Type5"Good" SchemaCategoryRef5"C43171801">
- <ProductID>140141-002</ProductID>
- <UOM><UOMCoded>EA</UOMCoded></UOM>
- <Manufacturer>Compaq</Manufacturer>
- <LeadTime>2</LeadTime>
- <CountryOfOrigin>

<Country><CountryCoded>US</CountryCoded></Country></CountryOfOrigin>

Media standards

- **GIF (Graphics Interchange Format)** A graphics format and compression algorithm best used for simple graphics
- JPEG (Joint Photographics Experts Group) A graphics format and compression algorithm best used for photographs
- **Streaming media** Sound and video that can be experienced within a web browser before the whole clip is downloaded e.g. Real Networks .rm format
- Video standards include MPEG and .AVI
- Sound standards include MP3 and WMA

Chapter 4 (supported by Chapter 3)



E-BUSINESS CHALLENGES AND OPPORTUNITIES

E-COMMERCE IN GHANA – SUCCESS STORIES...

🗖 Lankah

A car firm that enables Ghanaians to purchase used cars from Germany. The firm has no physical showroom or warehouse for the cars. Customers view the cars through the firm's website and express their interest. Cars are shipped to Ghana after the customers make payment. The company sold 9 cars in 2004; 16 (2005) and 18 (2006). In 2009 (100 cars every two months).

□ Kasapreko

A Beverage manufacturing firm which uses its website and email to source for suppliers of production materials. The company was able to curb a problem of imitated products by introducing unique bottle caps which was produced by Indian firm. The supplier was discovered through the Internet and the bottle caps were produced email and telephone communication.

Lizdon

A Fabric and Garment Manufacturing firm which uses the Internet to market products and also source for garment designs. Through an email managed relationship with an American partner, the company exported garments to the USA and made revenues totalling US \$ 10,000 a year (2001 – 2006). 44







Matching skirt suit

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	4. TOTAL	4 TOTAL				
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E-commerce in Ghana – where we are...



The environment in which e-business services are provided



Environment constraints and opportunities

- **Customers** which services are they expecting from you?
- **Competitors** need to be benchmarked in order to review the online services they are offering do they have a competitive advantage?
- **Intermediaries** are new or existing intermediaries offering products or services from your competitors while you are not represented?
- **Suppliers** are suppliers offering different methods of procurement to competitors that give them a competitive advantage?

Environment constraints and opportunities (Continued)

- Macro-environment
- **Society** what is the ethical and moral consensus on holding personal information?
- **Country specific, international legal** what are the local and global legal constraints for example, on holding personal information, or taxation rules on sale of goods?
- **Country specific, international economic** what are the economic constraints of operating within a country or global constraints?
- **Technology** what new technologies are emerging by which to deliver online services such as interactive digital TV and mobile phone-based access?

SLEPT factors

- Macro-environment
 - Social
 - Legal
 - Economic
 - Political
 - Technological

Economic / political

- Ensuring companies competitiveness
 Regulate or Promote
- Taxation regimes
 - Legislation for offshore trading
 - Where do I pay tax???



E-business Challenges

Socio-cultural barriers to e-buying include *Trust, language preferences, income and literacy levels, attitudes toward distance buying, methods of payment*. High existence of these barriers could lead to poor adoption of the system.

For instance consumers in Mexico and Egypt are generally accustomed to touching merchandise before buying. Other issues relating methods of payment are prominent where credit card usage is low and the tradition of cash payment exists, like Egypt and Ghana.



Trust and Different Information Sources

It's all about love and trust!



- Ethical issues concerned with personal information ownership have been usefully summarized by Mason (1986) into four areas:
- **1. Privacy** what information is held about the individual?
- **2.** Accuracy is it correct?
- **3. Property** who owns it and how can ownership be transferred?
- **4.** Accessibility who is allowed to access this information, and under which conditions?

'I won't shop at Target again': Angry fraud victims condemn store after details of up to 40 MILLION credit cards are stolen by hackers

- Almost all of Target's 1,797 stores in the US were targeted as 40,000 credit card swipe machines were hacked
- · Second largest theft of credit card details in American history
- Data mining software installed on swipe machines sent card details to hackers
- Secret Service investigating

58

· Thieves tried to use credit card of one victim at a California casino



http://www.dailymail.co.uk/news/article-2526235/Over-1-MILLION-Target-customers-account-information-stolen-Black-Friday-weekend-in.html

Information Collected by Websites

- 1. Contact Information
- 2. Profile information personal information
- 3. Access Platform usage
- 4. Behavioral information on a single site
- 5. Behavioral information across multiple sites

Concerns

- 1. Transparency who is collecting what information?
- 2. Security how is information protected once collected by a company?
- 3. Liability who is responsible if data is abused?

- Fair information practices principles:
 - Notice/awareness (core principle): Web sites must disclose practices before collecting data
 - Choice/consent (core principle): Consumers must be able to choose how information is used for secondary purposes
 - Access/participation: Consumers must be able to review, contest accuracy of personal data
 - **Security**: Data collectors must take steps to ensure accuracy, security of personal data
 - **Enforcement**: Must be mechanism to enforce FIP principles

These five Fair Information Practices provide the foundation for all privacy legislation in the United States, and much of Europe. You might go to a popular Web site, find its privacy policy, and see how well the site conforms to the principles above. Chances are good that the Web site you choose will have several statements in their policies which permit them to do anything they want with personal information.

E-business - Challenges

- **Legislation delays** arise when there is a need for new legislation and rules to support this form of procurement. Most transitional economies lack these laws; hence there is reduction of interest of organizations to participate in it. *Legality of Electronic Documents and Legality of Electronic Transactions*
- Ghana's Electronic Transactions Act 772 (2008) seeks to provide for and facilitate electronic communications and related transactions in the public interest, and to remove and prevent barriers to electronic communications and transactions; promote legal certainty and confidence and provide legal safe environment for the conduct of transactions with public and private bodies, institutions and citizens.
- The Act covers electronic records, digital signature, electronic signatures, consumer protection, cyber offences etc.

E-business Challenges

Ghana's Electronic Transactions Act 772 (2008)

Obtaining electronic payment medium falsely

119. A person who makes or causes to be made either directly or indirectly, a false representation to procure the issue of an electronic payment medium personally or to another person commits an offence and is liable on summary conviction to a fine of not more than five thousand penalty units or to a term of imprisonment of not more than ten years or to both.

General provision for cyber offences

123. Except as provided for in this Act, any offence under a law which is committed in whole or in part by use of an electronic medium or in electronic form is deemed to have been committed under that Act and the provisions of that Act shall apply.



Localization

- Singh and Pereira (2005) provide an evaluation framework for the level of localization:
 - **Standardized web sites (not localized)**. A single site serves all customer segments (domestic and international)
 - Semi-localized web sites. A single site serves all customers; however, there will be contact information about foreign subsidiaries available for international customers. Many sites fall into this category
 - Localized web sites. Country-specific web sites with language translation for international customers, wherever relevant. 3M (www.3m.com) has adapted the web sites for many countries to local language versions. It initially focused on the major web sites

Localization (Continued)

- **Highly localized web sites**. Country-specific web sites with language translation; they also include other localization efforts in terms of time, date, postcode, currency formats, etc. Dell (*www.dell.com*) provides highly localized web sites
- **Culturally customized web sites**.Web sites reflecting complete 'immersion' in the culture of target customer segments; as such, targeting a particular country may mean providing multiple web sites for that country depending on the dominant cultures present. Durex (*www.durex.com*) is a good example of a culturally customized web site

E-business Technology Challenges

- **Poor change management** occurs from lack of stakeholder involvement, lack of support from senior management, or even lack of organizational support. Most transitional economies are struck with problems of unemployment and since e-commerce decentralises all commercial and purchasing activities, the *threat of redundancy*, *redeployment or loss of power is likely to lead to resistance* to the implementation of the system.
 - Rate of change
 - Which new technologies should we adopt?
 - Monitoring for new techniques
 - Evaluation are we early adopters?
 - Re-skilling and training
 - Are our systems secure?

Figure 4.12 Diffusion—adoption curve



E-business Technology Challenges

- Electronic Payment Systems
 - Visa payments at point of sale Mr. Price and Truthworths at Accra Mall
 - Visa Payments at Hotels in Accra
 - Ezwich in Ghana payments of National Service and government employees and selected retail shops
- Mobile Payment

- Remittances, buying of airtime and payment in selected retail shops
- Addressing System for Delivery
 - Using the nearest landmark
 - Drawing of maps and Google Maps





Figure 4.11 A framework describing the e-economy

68

Source: Booz Allen Hamilton (2002). International E-Economy: Benchmarking The World's Most Effective Policy for the E-Economy. Report published 19 November, London. www.e-envoy.gov.uk/oee/oee/nsf/sections/summit_benchmarking/\$file/indexpage.htm

Information Technology Capital Investment

Considering the context of a developing country like Ghana, is the internet a strategic choice for every firm or otherwise, **should every firm do business online**?



E-commerce in Ghana – Where are we?

Go to the Class website: www.vivaafrica.info

70

Government Readiness Market Readiness Technology Readiness Cultural Readiness

Under Case studies download the paper on E-commerce in Ghana