

# **CYBERMARKETING**

**A GUIDE FOR MANAGERS  
IN DEVELOPING COUNTRIES**

**by**

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**DISCLAIMER**

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ABSTRACT

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# 1. INTRODUCTION

Welcome to the arena of *cybermarketing*! This manual targets specifically executives of developing countries willing to take advantage of the commercial possibilities of the Internet.

Given that this manual is not designed to be an introduction to the Internet, readers who want to take full advantage of its content should have some experience with the Net, not only as users but, ideally, also as buyers. We estimate that about 100 hours of surfing is required to obtain a good feel of how the Internet does and could function as a commercial tool. To invest 100 hours is not easy for a manager, but Internet has taken such an importance in our business world that the return on the time invested is exceptional. Guaranteed!

This manual has been written for generalists despite the fact that it has some technical content, particularly in the first part (i.e. Fundamental Notions). The reason is that to have a basic understanding of some technical aspects is essential to properly define a strategy. However, the more technical sections could be skimmed through without any loss of continuity. We recognise that Cybermarketing is a somewhat involved topic in the sense that many complex elements must be simultaneously considered in order to define a sound strategy. To facilitate the familiarisation of many new concepts, the same information is sometimes given several times but from different angles. We would recommend most readers not to try to understand all details at the first reading: we believe it is best to first grasp the big pictures before trying to dig into more details.

This manual emphasises the Business-to-Business (B-to-B) applications since they represent about 80% of the commercial opportunities in the Net. However, Business-to-Consumer (B-to-C) applications are covered as well, primarily because they cannot be clearly dissociated from the B-to-B issues.

This manual is designed to help managers to decide how to use the Internet but it does not explain how to implement the technical (i.e. computer programming) details chiefly because this is no longer a general management matter. For this purpose, there are plenty of excellent books and Internet resources, most of them being available for free.

To a large extent, the content of this manual will not be significantly affected by time, largely because it deals primarily with strategic and commercial notions rather than with

products and other fast-changing technical matters. Furthermore, the few sections of this manual which should be updated regularly are emphatically indicated as such.

Finally, this manual focuses on the needs of developing countries. However, it must be said that most considerations apply to developed countries as well. At any rate, specific issues of developing countries are always clearly pointed out.

The content of this manual is chiefly based on our international practical experiences as cybermerchants as well as on the experiences of our clients. To a large extent, we disagree with what is written about e-commerce. Indeed, we feel that a large deal of the information and opinions are mere reproductions of commercial messages trumpeted by e-commerce products vendors. Given that the author of this manual is not a computer-addict but a generalist converted into an e-merchant, we hope that the down-to-earth approach of this manual will be appreciated.

Most people tend to assume that *all* what is done by successful companies is good. At least in the novel field of e-commerce, this is fundamentally untrue and we are intimately convinced that most companies even in developed countries use the Net very poorly. This is largely due to misleading messages conveyed by commercial advertisements and by speakers in e-commerce seminars sponsored by suppliers of e-commerce products. Besides, this inaccurate information is quite often echoed by the press as well as by “forward-sounding” politicians.

Some executives refuse to touch computers because they consider they are tools reserved for junior secretaries. These executives should be reminded that decadence has always been preceded by status symbol-related arrogance. Other executives consider that they are too old to learn how to use modern computers. To make computers is indeed extremely complicated. By analogy, to design and manufacture cars, phones and televisions is also far from being a piece of cake. However, to *use* these modern tools is easy and, if it were not the case, they would not have had any commercial success. Anyway, these reluctant executives just need to ask their children to spare 15 minutes for them and to show them the basics of using the Internet.

As a first conclusion, there is no doubt that Internet will allow some developing countries to leapfrog rich nations. But to do so, it will require faith, hard work and sharpness galore. Hopefully, this manual will be instrumental in helping its readers to prepare for a huge leapfrog!

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## **2. FUNDAMENTAL NOTIONS**

## Internet: What is it?

As mentioned earlier, this manual is not an introduction to the Internet. However, we believe it is useful to recapitulate with the below tableau the different *interconnectable* services of the Internet. It is indeed essential to grasp the differences between all these services despite the fact that the abundance of redundant terminology makes it sometimes confusing.

### The different services of the Internet

| <b>Services of the Internet</b><br><i>(alternate terminology)</i> | <b>Comparison with the "real world"</b> | <b>Software used</b>   | <b>Derived Services</b>              |
|---|---|--|--------------------------------------|
| <b>World-wide web</b><br>(www, web)                               | Library                                 | Browser  | FTP (mostly integrated in web sites) |
| <b>E-mail</b><br>(e-mail)   | Letter                                  | E-mail software<br>(often integrated in browser) or browser in the case of "web e-mail". | Mailing list                         |
| <b>Discussion Groups</b><br>(discussion forum, usenet, newsgroup) | Message Board<br>(non-real time)        | Browser  |                                      |
| <b>On Line Chat</b><br>(IRC, Internet Relay Chat)                 | Discussion rooms<br>(real time)         | Normally specific software   |                                      |

## How Big is the Internet?

The Internet is neither owned nor managed by a central administration. Even at the national level, there is more often than not no central administering authority. As a consequence, it is impossible to know with precision the number of:

- people having access to the Internet
- web sites
- web pages

The only reliable figure which is - for technical reasons - known is the number of *hosts* (i.e. computers connected permanently to the Internet). Using this figure and combining it with some offline market surveys, most market research companies have arrived at the following amounts:

### Approximate number of users:

- End 1998: world: 100 m
- End 2001: world: 250 m

However, only about 40% of these users can be considered as *regular* users (i.e. at least one connection per week).

Number of web sites (1999): ~ 6 m

Number of web pages (1999): ~ 320 m

It is estimated that 65 % of the Internet (measured in terms of users, web sites & hosts) are in the USA, 25 % in Europe, 7% in Japan/Australia/New Zealand and *only 4% in developing countries*.

Obviously, these figures evolve extremely rapidly. To keep abreast of the last changes, good sources include:

- [www.forrester.com](http://www.forrester.com)
- [www.thestandard.com](http://www.thestandard.com)

## What is the Importance of e-commerce?

In its last report published in 1999, the OECD mentioned that Internet Commerce should reach about US\$ 1 trillion in the 2003 to 2005 timeframe. About 80% of this figure should be realised by Business-to-Business transactions. Albeit this figure looks impressive, it represents a mere 0.5% of the current volume generated by retailers in the OECD countries. Therefore, despite all the hype surrounding the Internet, what shall we worry for 0.5%? We have several answers to this provocative yet sound question.

0. This percentage of 0.5% is an average for all industries and *it eclipses the fact that some specific industries are already being fully revolutionised by the Internet. Please refer to the next section as well.*
1. *Many companies use a web site as part of a strategy to conquer new markets; however, more often than not, new clients will make final purchases offline - specially in the high volume B-to-B segment.*
2. Most importantly, *the impact of the Internet cannot be measured in terms of additional online sales only* for several reasons: a) the major strengths of the Net lie in reducing interaction costs rather than in generating additional sales; b) the e-commerce industry has a major impact on many *related* companies such as software and hardware vendors; c) large Internet companies like Yahoo (online directory) or Geocities (virtual community) are not directly involved in selling online.

## The Major Online Industries

Most companies can greatly benefit from the Internet, primarily as a tool to reduce interaction costs. However, the below industries have already started to be revolutionised by new online-only companies which, in addition of using the Net to keep low interaction costs, have already reached significant amounts of *online sales*.

- New/second hand cars (e.g. [www.carpoint.com](http://www.carpoint.com))
- Real estate (e.g. [realestate.yahoo.com](http://realestate.yahoo.com))
- Auction (e.g. [www.ebay.com](http://www.ebay.com))
- Employment (e.g. [www.careerpath.com](http://www.careerpath.com))
- Personal encounters (e.g. [www.match.com](http://www.match.com))
- Financial products (e.g. [www.etrade.com](http://www.etrade.com)). (Note: by mid-1999, it was estimated by CSFB that as much as 16% of stock trades take place in cyberspace)
- Computer & accessories hardware/software (e.g. [www.dell.com](http://www.dell.com)). (Notes: In 1999, Dell sells for about US\$ 15 million every day on the Net i.e. nearly 30% of its total sales; Cisco sells about 80% of its sales through the Internet).
- Books (e.g. [www.amazon.com](http://www.amazon.com))
- CDs (e.g. [www.cdnow.com](http://www.cdnow.com))
- Travel-related (tickets, hotels, rental car) (e.g. [www.expedia.com](http://www.expedia.com))
- eZines (aka electronic or Internet-only magazines) (e.g. [www.cnn.com](http://www.cnn.com))
- Amoral/illegal markets (pornography, restricted medicine such Viagra)

In addition, many companies with no equivalent outside the Internet have been successfully launched:

- Search tools ([www.altavista.com](http://www.altavista.com), [www.yahoo.com](http://www.yahoo.com))
- Virtual Communities (e.g. [www.aol.com](http://www.aol.com), [www.geocities.com](http://www.geocities.com), [www.ivillage.com](http://www.ivillage.com))

*Note: these companies active in Internet-only industries tend to be the most profitable ones.*

As the readers may have noticed, all the above mentioned examples are American. The reason is twofold: a) these sites are in English; b) given the large Internet market in the USA, these sites tend to be the most sophisticated ones.

N.B. The author of this manual has no particular affinity to the USA.

## Will the Internet Continue to Grow?

Even though we do not know with precision the current penetration of the Net, it is certain that it will continue to grow at a fast rate. On one side, *the number of users will continue to grow* - even though this number is already quite large. On the other side and most importantly, *the number of online transactions - which is currently, as we have seen, quite small - will start to grow.*

What are the reasons of this twofold growth? Internet will become:

- **Much faster** (thanks to technologies such as optical fibre, xDSL, cable, satellite, ISDN, minimum guaranteed bandwidth e.g. RSVP, browser & proxy caching, mirror sites, webcasting, hybrid solutions CD-ROM/Internet)
- **Cheaper** (thanks to: set top boxes, network computers, access by cable)
- **More user-friendly**
- **More attractive in terms of content.** As an example, prices of many products (e.g. plane tickets) are - for the time being - the same online and offline; however, as soon as these tickets sold online become cheaper, the attractiveness of the Internet will rise sharply.
- **Even safer and, most importantly, *perceived* as such** (Note: the online presence and encouragement of governments, large banks and reputable companies will play a pivotal role; moreover, new truly safe payment protocols such as SET and C-SET are being introduced).
- **Increasingly useful/indispensable thanks to the *network effect*,** i.e. the more people are connected, the more useful it is to be connected.
- **A top priority topic of political agendas.**

## What is the Profile of Typical Internet Users?

Countless surveys have been realised to define the typical characteristics of Internet users. Most of them display the following features:

- Often Male
- Rather young
- Education and income levels are above average

Interestingly:

1. These characteristics depends very little on the surveyed countries

2. *This profile is expanding rapidly towards all other layers of the population.* This trend is specially marked in the USA, which leads the world in Internet and e-commerce matters.

## The Electronic Mail

The electronic mail (aka *e-mail* or *e-mail*) is the most used service of the Internet. Besides, most non-Internet e-mail platforms now have gateways to the Internet-based e-mail.

*The (Internet-based) electronic mail is so useful, low cost and handy that all companies in the world should adopt it as soon as possible, at least to be easily reachable by their customers.*

*Besides, (Internet-based) electronic mail constitutes a golden opportunities for developing countries to circumvent domestic deficient or too expensive telecommunication or postal system. Indeed, since an e-mail system is asynchron, it can work well even using an unreliable infrastructure, which is much less the case of fax machines and telephones. Finally, "web e-mail\*" systems even function using exclusively the infrastructure of other countries. i.e. are further dependent from local infrastructures.*

- \* Note: a "web e-mail" is an email system which is accessed from the web as opposed to from an e-mail specialised software program. Many popular web sites (such as [www.netaddress.com](http://www.netaddress.com), [www.netscape.com](http://www.netscape.com), [www.yahoo.com](http://www.yahoo.com)) offer free "web e-mails", i.e. financed by adverting banners.
- For comparison purposes: see Appendix 1 for an example of an e-mail specialised software and Appendix 2 for an example of a (free) web e-mail service.

Despite the popularity of (Internet-based) e-mail, most managers do not precisely know its commercially relevant characteristics, which are listed below.

Note: the below assets and weaknesses apply for both regular Internet-based e-mail and (Internet-based) *web* e-mail but not necessarily for other types of non-Internet-based e-mail systems.

### **Major assets of (Internet-based) e-mail**

- Extremely low cost, especially in the case of mass e-mailing.
- High speed of transmission, often nearly instantaneous. However, in case of an excessive traffic in the Net, an e-mail message can also take several hours (or even more) to reach its destination
- Highly handy build-in address book
- Received messages can be edited, copied, forwarded, etc.

- A host of very practical and easy-to-learn functions such as “copy”, “blind copy”, “reply”, “forward”, “automatic reply”, “automatic filtering” and “automatic filing”, etc.
- Possibility to link an e-mail message with a web site (and reciprocally). Technically, this is called a “hot (hyper) link”.
- All kinds of files (e.g. Microsoft Word documents, images/pictures, sounds, ...) can be attached to an e-mail.
- E-mails can be digitally signed (see Appendix 3) in order to prove the identity of the sender. However, this feature is so far not much used. In some countries, digital signatures already have the same legal recognition as physical signatures. Several web sites (such as [www.verisign.com](http://www.verisign.com)) sells digital signature (for less than US\$ 30 per year) usable for signing e-mails.
- E-mails can be encrypted in order to ensure that the message is transmitted confidentially and cannot be read non-authorized people. In order to encrypt e-mails, both the sender and the receiver must be equipped with a (low-cost) special software (for instance the one of [www.pgp.com](http://www.pgp.com)).
- The sender of e-mails can ask for a “return receipt” to make sure that the e-mail has been well received.

### **Major weaknesses of (Internet-based) e-mail**

- Some percentages (approximately 1-2%) of losses are unavoidable, especially in times of heavy network traffic and if the attached documents are sizeable. To be fully sure that an addressee has received an e-mail, the sender must either ask for a return receipt or ask the addressee to confirm (by return e-mail) the receipt of his message.
- Most e-mails still have a rough simple text appearance. However, it is possible to send e-mails using the so-called “rich-text format” (e.g. “HTML e-mail” which allows countless fonts & colours as well as image insertions) but many addresses do not have the adequate software to read these rich-text format messages.
- It is difficult to find e-mail addresses (see next section).
- The spam dilemma, that is most people hate to receive unsolicited (and generally untargeted) mass e-mailing promotional messages.

***Conclusion : as emphasised earlier, the assets of e-mail far outweigh its weaknesses. Hence, every company which has access to a telephone line should use e-mails as soon and as much as possible.***

## Where to Find e-Mail Addresses?

The best way to find an e-mail address of a given person is to ask her or him. Besides, most people indicate their e-mail address in their business card and many companies display their e-mail (and web) addresses in their promotional materials.

If an e-mail address cannot be found by these means, several specialised directories can be tried such as [www.whowhere.com](http://www.whowhere.com), [www.netscape.com](http://www.netscape.com) ("People Finder" section), [www.bigfoot.com](http://www.bigfoot.com) & [people.yahoo.com](http://people.yahoo.com). These specialised e-mail directories are U.S.-based but they tend to be used internationally; moreover, some other e-mail directories are country-specific. Unfortunately, all these e-mail directories are very incomplete because Internet users are not obliged to register. What's more, many Internet users even prefer not to register any data for fear of receiving too many unsolicited commercial messages.

The issue of finding suitable e-mail addresses is especially acute for the case of *mass e-mailing*. Indeed, thanks to the Internet, it is technically possible to run mass e-mailing campaigns at virtually no cost. By contrast, traditional (print) mass mailing actions are extremely onerous due to significant expenses generated by catalogue design/printing, postage and sometimes the purchase of addresses. On some occasions, it is possible to buy (targeted) e-mail addresses from specialised brokers; however, readers must be warned that most of these brokers sell addresses which have been collected without the consent of their owners typically from sources such as newsgroups and even unscrupulous Internet access providers. In addition, some web sites specialise in locating existing mailing lists (such as [www.liszt.com](http://www.liszt.com)); however, most of the referred to lists allow people to *receive* messages about a certain topic but not to *send* messages.

It must be emphasised that most Internet users dislike to receive unsolicited commercial messages, particularly if they do not correspond at all to their area of interest. The process of sending a large amount of unsolicited (and untargeted) commercial e-mails is called *spam* and this practice can ruin a company reputation. In the USA, corporations cannot legally carry out unsolicited commercial mass-e-mailing campaigns; indeed, they must ask receivers *in advance* if they wish to receive promotional e-mails (this system is called « *opt-in* »). In the European Community, the much less stringent « *opt-out* » system is generally applied: in other words, unsolicited commercial mass e-mailings are acceptable but receivers have the right to request to be erased (for free) from an e-mailing list.

Practically, in a B-to-B setting, a company can proceed as follows to gather suitable e-mail addresses:

- ask systematically current and potential business associates (clients, suppliers, ...) for their e-mail addresses.
- encourage people surfing in the company web site to leave their e-mail address in order to receive free announcements and/or newsletters (see Appendix 4).
- gather addresses from specific newsgroups, industry directories, etc. but making sure that these addresses are well targeted.
- purchase addresses from brokers but making certain that these addresses have been properly collected.
- visit potential clients/business associates web sites and to collect their e-mail addresses.
- try [www.liszt.com](http://www.liszt.com)
- and importantly, when sending mass e-mail messages, make absolutely sure that receivers can, if they wish so, be very easily erased from the mailing list.

Important final notes:

- 1) Companies should not only strive to build mailing lists of their current or potential customers, but also of their suppliers, subsidiaries, journalists and any other groups of people with whom they interact.
- 2) Companies should also consider e-mail lists as a mean to *receive* free information about several topics (including about their competitors' latest moves).
- 3) Appendix 5 shows a typical example of how to use a mailing list to turn one-time customers into loyal repeat clients.

## How to Manage Mailing Lists?

Many software programs can help a company to update and exploit efficiently mailing lists. The choice of a software depends mainly on the number of addresses (e.g. a few dozens to several millions). As a corollary, it is important to know whether mailing lists should be managed manually, semi-automatically or fully automatically?

Examples of software for

- large mailing lists: [www.listserv.com](http://www.listserv.com), [www.majordomo.com](http://www.majordomo.com)
- mid-sized mailing lists: [www.listbot.com](http://www.listbot.com)
- small mailing lists: Microsoft Outlook Express (i.e. the free e-mail software which is delivered as part of the Microsoft Explorer browser)

## **Discussion Groups**

**(aka usenet, newsgroups, discussion forums)**

Technically speaking, there are several types of discussion groups. Key parameters are:

- Moderated vs. not moderated ;
- Permanent vs. temporary;
- Freely accessible to all vs. application process required

Commercially speaking, discussion groups can be a powerful tool to be used to:

- Exchange information about specific topics. Researchers and computer programmers use this tool abundantly, particularly if they are not direct competitors.
- To advertise one's products (normally in an indirect way).
- To find resources (suppliers, employees, ...).
- To know what people really think about one's products. Indeed, many discussion group participants use anonymous e-mails addresses; therefore, they tend to express their opinion very frankly.

Finally, several search tools (e.g. [www.infoseek.com](http://www.infoseek.com)) can run searches from discussion groups while others tools (e.g. [www.deja.com](http://www.deja.com)) specialise in these discussions groups.

# The Strengths of the Web

Together with e-mail, the web is the most used Internet resource. It is essential to understand its characteristics having direct commercial impacts.

## The strengths of the web

- The web is digital and consequently has multimedia features (i.e. includes text, image, sound, video, livecams, ...)
- It is interactive; therefore users can not only receive information they can also send information (e.g. to express an opinion, to take part in a contest, to make a purchase)
- The information contained in web pages (e.g. texts, images and other files) can be downloaded and edited. (See Appendix 7).
- The web is world-wide. Consequently it supports all (major) languages.
- It can use automatic alert systems.  
Examples:
  - a job hunter can be informed (by e-mail) as soon as a free job is loaded in some given web sites.
  - A stock investor can be notified as soon as the value of a stock reaches a certain level.
  - A company can be informed as soon as its competitor's web site is modified (see Appendix 8).
- It is multi-platform. It works on many hardware platforms (IBM, Macintosh, ...) and on many software platforms (Unix, NT ...). This may seem trivial but it entails tremendous cost savings.
- Web pages can be fully open to all or their access can be (partially or fully) restricted. (see Appendix 9). For instance, *intranets* are web sites for internal uses only while *extranets* are web sites accessible only by certain company's business associates.
- Access to the web is low cost, unless local telecommunication and/or Internet Access Providers costs are outrageously high. In the USA, most people have unlimited access to the web for less than US\$ 20 per month. See Appendix 10 to compare access costs between some developed countries and some developing countries.
- A web presence is relatively cheap in most cases. At any rate, it is much cheaper than traditional EDI (Electronic Data Interchange) applications.

- The web is permanently open. However, most servers hosting web sites have some down times. See Appendix 11.
- Web sites can be managed anonymously. As a consequence, some people use the web to deride companies or to make prohibited political propaganda.
- Web sites can be easily updated and changes are immediately effective.
- The web is interconnectable with other Internet services (i.e. e-mail, discussion groups, ftp, online chats, ...)
- Detailed/real time access statistics of web users can be consulted. Besides, *some* information about users can be gathered. This work is facilitated by specific software such as [www.webtrends.com](http://www.webtrends.com) or [www.mkstats.com](http://www.mkstats.com). See sections "Typical Web Site Statistics" and "What Can a Web Site Publisher Know about his Users Based on their Traces" for more details.
- One-to-one marketing and data mining applications are possible (but usually quite expensive). In plain English, this means that a web site can be different for each user. Moreover, a web site can use the information it has collected about a given user to anticipate his tastes. See Appendix 12.

# The Web: its Teething Problems

The web has many qualities but also some defects, most of them being short-term ones.

## **The short-term drawbacks of the web**

- The web (or, more generally, the Internet) is not fully reliable. Indeed, down time – which can be triggered by many elements - is not exceptional particularly in developing countries.
- The web is too slow, except for texts. Therefore, most web sites must be optimised taking into account that large pictures, sounds, videos, etc. will require too much waiting time from users. Even if some users may have exceptionally fast Internet access, most others do not. Moreover, the downloading speed of a web site depends on many elements controlled by many people; as usual the slowest element of the chain (i.e. the bottleneck) will determine the ultimate downloading speed. For companies of developing countries, this means that their sites should probably be hosted abroad (e.g. in the USA) to minimise downloading time. For some technical reasons, even if developing countries' web sites target local users, it is normally best (in terms of access speed) to have them hosted abroad.
- Despite its fast growth, Internet has still a relatively limited penetration, specially in developing countries.
- Internet technology and products are characterised by very frequent technical changes and updates. While typical commercial software (like Microsoft Word) are updated every two or three years, most Internet-related products are usually fundamentally upgraded several times in a year.
- The *perceived* security (e.g. payment related) is insufficient. See specific section for more details.
- Identification systems (e.g. digital signature/certificates, cyber-notary/trusted third party, full legal recognition) are not well implemented even though they are technically available.

# The Web: its more Chronic Weaknesses

While most of the web assets and short-term drawbacks are of *technical* nature, most of its long-standing weaknesses are of *commercial* nature.

## The long-term defects of the web

- Internet is a network of cold computers. Obviously, it is difficult to charm (including to sell) using cold machines.
- Webmasters do not have a full graphic control of what users will see because browsers (and other software) vary. Besides, screens have different sizes and colour settings. However, recent technologies (e.g. CSS) allows an increased (but not full) control.
- The web is mostly a "pull media" (despite some so-called push technologies). In other words, users must actively seek to go to web sites (e.g. by keying in web site addresses).
- In 1999, there were over 5 million web sites and more than 300 million web pages. Therefore, it is unusually difficult and/or expensive to be known and to stand out.
- The web triggers distribution channel wars (see specific section).

Overall, if we compare the web with other existing media (see also the detailed tableau in the next page), it becomes apparent that the web has by far more strengths than weaknesses.

## Comparison Between the Web and other Media

|  | WWW                | Phone                    | Fax                      | Video-text         | Teletext  | TV (analogue)       | Radio      | Letter                 | News-papers           | EDI*                |
|--|--------------------|--------------------------|--------------------------|--------------------|-----------|---------------------|------------|------------------------|-----------------------|---------------------|
| <b>Multimedia</b>                                      | Yes                | No (Voice)               | No (Image, text)         | No (Image, text)   | No (Text) | Yes                 | No (Voice) | No (Image/Text)        | No (Image/text)       | Yes (potentially.)  |
| <b>Interactive</b>                                     | Yes                | Yes                      | Yes (not in real time)   | Yes                | No        | No (Yes if digital) | No         | Yes (not in real time) | No                    | Yes                 |
| <b>Data are downloadable and editable</b>              | Yes                | No                       | No                       | Yes (more or less) | No        | No                  | Not really | No                     | No                    | Yes                 |
| <b>World-wide</b>                                      | Yes                | Yes                      | Yes                      | No                 | No        | Rarely              | Rarely     | Yes                    | Rarely                | Rarely              |
| <b>Multi-platform</b>                                  | Yes                | NA                       | NA                       | No                 | No        | No                  | NA         | NA                     | NA                    | No                  |
| <b>Access is fully or selectively open</b>             | Yes                | Yes                      | Yes                      | Open               | Open      | Open                | Open       | NA                     | Usually open          | Usually proprietary |
| <b>Permanently open</b>                                | Yes                | Yes                      | Yes                      | Yes                | Yes       | Yes                 | Yes        | NA                     | NA                    | Yes                 |
| <b>Cheap access</b>                                    | Yes                | Local communication only | Local communication only | Yes                | Yes       | Yes                 | Yes        | Only if locally        | Yes                   | Set up is expensive |
| <b>Easily updatable / immediate effects</b>            | Yes                | NA                       | NA                       | Yes                | Yes       | NA                  | NA         | NA                     | NA                    | Yes                 |
| <b>Some information about readers can be collected</b> | Yes                | NA                       | NA                       | Yes                | No        | No (unless digital) | No         | NA                     | Yes (if subscription) | Yes                 |
| <b>Takes legacy systems</b>                            | Yes                | NA                       | NA                       | Rare               | Rare      | NA                  | NA         | NA                     | NA                    | Difficult           |
| <b>Personnalisable</b>                                 | Yes                | NA                       | NA                       | No                 | No        | No                  | No         | NA                     | No                    | Yes                 |
| <b>"Information pull"</b>                              | Yes                | NA                       | NA                       | Yes                | Yes       | No                  | No         | No                     | No                    | Yes/No              |
| <b>Reliability</b>                                     | Not yet            | Yes                      | Yes                      | Some               | Yes       | Yes                 | Yes        | Yes                    | Yes                   | Often               |
| <b>Fast access</b>                                     | Not yet            | NA                       | NA                       | Yes                | Yes       | NA                  | NA         | NA                     | NA                    | Often               |
| <b>Accessible by a large audience</b>                  | Not yet            | Yes                      | Yes                      | Not really         | Yes       | Yes                 | Yes        | Yes                    | Yes                   | No                  |
| <b>Safety</b>  | Not completely yet | No                       | No                       | Yes                | NA        | NA                  | NA         | Yes                    | NA                    | Often               |

NA= not applicable or not comparable; **SHADOWED cells point out clearly positive points.**

\* EDI (electronic data interchange) refer to the exchange of data between private networks of computers using proprietary technology.

## Typical Web Site Statistics

This section lists the different parameters of a typical web site statistical report. Needless to say that graphs can also be produced.

- *Most and least requested pages*
- *Average user session length* i.e. how much time do users stay in average in a web site.
- *Top entry and exit pages* i.e. from which pages do users access and leave a web site.
- *Single access pages* i.e. which page on a web site do visitors access and exit without viewing any other page.
- *Top paths through site* i.e. the path users most often follow when visiting a web site.
- *Most downloaded files* such as a piece of software, a music clip, etc...
- *Information about the most frequent visitors* i.e. organisations/companies, types of domain name, countries, regions within a country, etc. See section "What Can a Web Site Publisher Know about his Users Based on their Traces" for more details about this topic.
- *Top authenticated users* i.e. who is visiting most often the web site (applies only when a web site requires a user name/password to be accessed).
- *Traffic summary*: day by day, by day of week or by hour of the day.
- *Total hits, failed hits, cached hits and (server or user) errors.*
- *Used bandwidth*
- *Most accessed directories* i.e. within a web site
- *Top referring sites and search engines* i.e. from where do users come from? (in other words: do they type the web site address? do they come from an advertising banner? do they come from search engines or other links?)
- *Top keywords* entered in search tools to find the web site
- *Browsers and operating system most used by users*
- *Visiting spiders* i.e. which search engine has found your site?

## **Costs Generated by a Web Presence**

When estimating the cost of a web presence, most people think exclusively of hardware, software, hosting and programming costs. However, a web presence generates an array of (sometimes hidden) costs listed below.

1. Basic training
2. Strategic/commercial reflections (to define content, promotion methods, ...)
3. Content writing & specific layout/graphics
4. Programming (HTML, CGI, databases, ...)
5. Content update
6. Business process integration
7. Web site promotion (online and/or offline)
8. Software, Hardware, hosting/housing, dedicated line

Typically, the major costs are items 1, 2, 6 and 7. It should also be stressed that items 1 to 6 are human resources-based and therefore low labour cost countries enjoy here significant advantages.

Beside, it should be also mentioned that the programming technology to build web sites is very widely available either for free or at very low cost.

## **Required Know-How to Define and Implement an Internet Strategy**

To define and to implement an Internet strategy is hardly a technical matter. On the contrary, it requires the below gamut of competencies which are rarely found in one single person/company.

- Good understanding of the company and its industry
- Familiarity with the Net, chiefly as a commercial tool
- Technical know-how (code writing, ...)
- Knowledge of graphics/layout applied to the web
- Sense of marketing and commercial strategies
- Commercially-oriented editorial competence

At any rate, it is essential that management (rather than technical specialists) drives the process of defining and implementing an Internet strategy.

# Financial Considerations

In assessing the profitability of Internet projects, it is important to understand that most related cash inflows and outflows are difficult to assess. However, it would be very erroneous to consider only the hardware, software, hosting and programming costs because they are the only ones which can be precisely calculated. In other words, it is better to arrive at *roughly correct figures than at precisely wrong ones*.

Since each company uses the Net for different purposes and has different cost structures, we prefer to point out the most important items to be considered rather than to provide fictitious examples.

Important note: as in all proper financial evaluations, **all incremental cash flows** must be considered (as opposed to **some absolute accounting figures**).

## **Items to be considered:**

### ***Investment***

- Human resources
- Software, hardware and other infrastructure (e.g. dedicated lines)

### ***Increase of Expenses***

- Human resources
- Promotion
- Internet access (incl. e.g. phone lines)

### ***Decrease of Expenses***

- Human resources (less time spent for usual activities)
- Fax, phone, courier, mail
- Travel-related
- Recruiting
- Purchasing
- Lower inventory

### ***Increase of Revenues***

- New clients, more sales volume per existing client
- New services

### ***Decrease of Revenues***

- Cannibalisation of existing sales channels

## Which Part of the « Value Chain » Should be Done Online? (1)

The ultimate goal of a company should be to maximise the value to its clients, owners or employees. This goal cannot be to make as much e-commerce as possible. In other terms, a company should only take the portions of e-commerce which suit its objectives. As a corollary, a company should never perform every step online because it is pressured by a host of e-commerce products/services vendors to implement the most complete, complex and expensive Internet package.

The following tableau (see next page) looks at the typical collection of activities of a company (i.e. the "value chain") in a B-to-C setting and discusses whether it makes sense or not to perform them online.

In a typical B-to-B setting, online payments would not be required and the technical situation become much simpler. Indeed, in such a case, it would make sense to make only the following steps online.

- Information broadcast (i.e. electronic catalogue aka brochure ware)
- Request for additional information and corresponding replies
- Order taking
- Order confirmation
- Shipping notification
- After sales services

### Important note:

In addition to the above mentioned typical sequential value chain, the web can be effectively used to communicate (and reduce interaction costs) with many other business associates such as the press, potential employees, potential or current suppliers, etc.

## Which Part of the « Value Chain » Should be Done Online? (2)

| <i>Element of the "Value Chain"</i>   | <i>ON LINE or OFF LINE?</i>                                  | <i>Comments</i>   |
|---|--|---|
| <b>1. Information broadcast (i.e. electronic catalogue)</b>                           | Rather ON LINE   | Here on line has a very low cost. However, traditional means (e.g. print documents) are often necessary to generate some basic confidence.  |
| <b>2. Request for additional information and corresponding replies</b>                | Rather ON LINE   | E-mail or electronic feedback forms are very effective. In addition, a mailing list of potential clients can be easily built.   |
| <b>3. Act of selling (i.e. to convince people to buy)</b>                             | OFF LINE   | Should mostly occur offline, including by person-to-person contacts.  |
| <b>4. Order taking (i.e. transmission of order-taking data except sensitive data)</b> | ON LINE  | On line order taking is often very efficient, specially if processes are automated and even integrated  |
| <b>5. Transmission of data regarded as sensitive (i.e. credit cards details)</b>      | For the time being, rather OFF LINE;<br>soon: rather ON LINE | Since safety is currently (erroneously) deemed to be insufficient, off line transmissions (i.e. by fax, by phone, by "snail" mail) are often more effective.  |
| <b>6. Verification of customers liability limit/solvency (aka "Authorisation")</b>    | ON LINE or OFF LINE  | As far as credit cards are concerned, on line (in real time) is very efficient for large number of orders but it requires a still somewhat uncommon infrastructure, especially in developing countries.   |
| <b>7. Address verification</b>  | ON LINE or OFF LINE  | As far as credit cards are concerned, on line (in real time) is very practical (as long as the corresponding banks have this capability) but it requires a still somewhat uncommon infrastructure, specially in developing countries.                               |
| <b>8. Identity verification</b>   | ON LINE or OFF LINE  | For the time being, few systems (e.g. SET) allows this much needed identification. However, none of these systems are widely disseminated yet. An alternative solution is to consult (in real time on not) black lists. So far, only a few large e-merchants do it. |
| <b>9. Order confirmation</b>  | ON LINE  | Optional step. Can be done by e-mail (automatically or manually).   |
| <b>10. Shipping notification</b>  | ON LINE  | Optional step. Can be done by e-mail (automatically or manually).   |
| <b>11. Payment fulfilment (aka "capture")</b>   | ON LINE or OFF LINE  | On line (in real time) is very efficient for large number of orders but it requires a still somewhat uncommon infrastructure, especially in developing countries.   |
| <b>12. Goods delivery</b>   | ON LINE (if possible!) or OFF LINE                           | Ideally, goods are delivered through the internet (e.g. music, text, images, ...)   |
| <b>13. Verification of the conformity of goods delivered</b>                          | Small amounts; ON LINE; large amounts: OFF LINE              | Small transactions: "suppliers rating" systems can be used (e.g. bizrate.com or ebay.com);<br>Large transactions: classical means (such as letters of credit requiring a pre-shipment inspection, ...) are recommended  |
| <b>14. After sales services</b>   | ON LINE  | In most cases, on line systems are handy and low cost.  |

## The Measure of Traffic (1)

As we have seen earlier, the portion of online sales is rather small but the success of e-commerce can in no case be measured by this criterion alone.

One of the parameter to assess more appropriately the success of a web strategy is to measure traffic (aka activity) in a web site. However, there is a lot of confusion regarding how to measure traffic. The tableau of the following page intends to clarify the terminology related to this topic.

### Additional notes:

For several technical reasons (i.e. browser or proxy caching, text-only browsing, frequent push technology-based downloading, fraudulent repetitive downloading of one's own web site), it is difficult to measure traffic precisely. Therefore, data recorded by servers have a margin of error of 20 percent or even more.

Traffic can be certified by independent third party. Typically, online advertisement agencies certify traffic of web sites where they place advertising banners.

Uncertified data announced by web publishers are often grossly exaggerated since they know that nobody will be able to verify the accuracy of their statements.

## The Measure of Traffic (2): Typical relations between key units.

| Terminology<br><i>(in this example, all figures are on a monthly basis)</i>   | Explanations  |
|---|---|
| 100,000 <b>hits</b> correspond to approx. ...   |   |
| ... 10,000 <b>pages viewed</b> (aka <b>pages accessed, impressions</b> or <b>insertions</b> ) correspond to approx. ... | In a web page, each image is considered as one <i>hit</i> . There are in average 10 <i>hits</i> per web page.   |
| ... 1,000 <b>visits</b> (aka user sessions) correspond to approx. ...   | In average, a visit means to surf on 10 pages   |
| ... 200 <b>unique visitors</b> (aka <b>different visitors</b> ) correspond to approx. ...                               | Web sites are often visited by the same users (i.e. repeat users)   |
| ... 50 <b>transactions</b> correspond to approx. ...  | A transaction can be done in several ways: sending an e-mail, taking part in a contest, making a purchase, etc. |
| ... 10 <b>orders</b> .  | The ratio "one order for 100 visits" is rather above average  |

## The Various Technical Levels of Web Sites

The cost of building a web site varies from nothing to several millions dollars. This is primarily due to two reasons:

1. It depends on what is included in the cost of building a web site (see section "Costs Generated by a Web Presence").

2. Web sites have many different technical levels. An outline of the major levels is as follows (while a detailed – yet grossly simplified - tableau can be found in the next page):

- Level 1: Simple *publishing of information* (i.e. static site)
- Level 2: Level 1 plus *interactivity* (e.g. possibility to take orders or gather opinion from the web itself)
- Level 3: Level 2 plus the *use of databases* (e.g. suitable for dealing with many often changing products or for using a users' identification database). Moreover, in these cases, web pages can be generated *dynamically* that is they do not need to be prepared in advance but they are created on the fly depending on the tastes of users.
- Level 4: *One-to-one marketing* (level 3 is normally included) and even *data mining*. In these cases, web pages are different for each user (type). Besides, these pages can anticipate the tastes of users.

## The Various Technical Levels of a Web Site (Details)

| <i>Technical level of a web site</i>  | <i>Added value</i>   | <i>Required technical know-how</i>  | <i>Costs of required hardware (in US\$)</i>   | <i>Development costs (in US\$) (excluding hardware)</i>                |
|---|--|---|---|--|
| <b>Simple publishing of static information ...</b>                              | Self explanatory   | HTML or specialised software (i.e. web page editor).<br>Level: a good secretary well versed in office software.             | A PC (1000-2000)  | Once the content has been defined, approximately one hour per web page |
| <b>... with an e-mail connection ...</b>  | Users can easily send a message to e.g. the webmaster  | Same as above   | Same as above   | Same as above  |
| <b>... with some animation (incl. sounds) ...</b>                               | Give some life to the site (risk: greatly increases downloading time)                                    | Java, Active X, Shockwave, RealAudio. Level: non-professional computer freak  | Same as above   | Add some hours of work.  |
| <b>... with the ability to receive users' feedback in pre-defined forms ...</b> | Allows orders to be taken online (these orders can be directly transferred to databases)                 | CGI or specialised software (e.g. MS Frontpage, ...).<br>Level: non-professional computer freak to professional programmer. | Same as above   | Add some hours of work or a few thousands dollars (if done externally) |
| <b>... with a virtual caddie ...</b>  | Allows users to order with ease many articles from different pages                                       | CGI.<br>Level: professional programmer. (unless a complete e-commerce package includes this function)                       | Same as above or it starts to make sense to have one's own server (3,000-20,000 or more) + (500 to 3,000 per month) | Add several thousands US\$.  |
| <b>... connected to a database (level 1) ...</b>                                | Allows the creation of dynamic web pages i.e. which take their information in easily updatable databases | Databases, CGI, ...<br>Level: professional programmer.  | An own server is virtually compulsory (see above field)   | Add several thousands US\$ or more                                     |
| <b>... connected to a database (level 2) ...</b>                                | Allows users to search from and modify (add, delete, alter) databases                                    | Same as above   | Same as above   | Add several thousands US\$ or more                                     |

| <b>Technical level of a web site</b>                                   | <b>Added value</b>   | <b>Required technical know-how</b>  | <b>Costs of required hardware (in US\$)</b>  | <b>Development costs (in US\$) (excluding hardware)</b>  |
|--|--|---|--|--|
| <b>... connected to a database (level 3) ...</b>                       | Allows the storing of users' username and password (as well as other information) for e.g. identification purposes | Same as above   | For safety reasons, dedicated servers are recommended (3,000).                                     | Add several thousands US\$ or more   |
| <b>... with secure online transactions (e.g. SSL, SET)</b>             | See specific sections  | Secure transaction servers are expensive. For most cases, the best solution is to pay a fee for the use of an existing secure server. Say 1,000 for the set up plus 200 per month.                              |  |  |
| <b>... integrating the existing business processes ...</b>             | Efficiency gains by streamlining business processes  | The best approach is to use an integrated software (encompassing billing, inventory, clients' database, etc., ...) and , if necessary to adapt it. Say 5,000 to 30,000 provided required adaptations are small. |  |  |
| <b>... with a good protection of the site against hackers ...</b>      | Deter potential hackers  | Specific know-how.<br>Level: specialised programmer.  | Depends on the required safety level: e.g. 10,000 for a good proxy server to be used as a firewall | Add US\$ 5-10,000 or (much) more   |
| <b>... with one-to-one marketing and even data mining applications</b> | Personalise a web site to suit each users' needs   | Advanced programming skills.  | One-to-one marketing is more a matter of software rather than hardware.                            | Some modern e-commerce packages offer some basic one-to-one marketing functions. For advanced 1-to-1 ones: 100,000 to much more. |

## Where to Host Web Sites?

Every web site must be hosted in a *server* that is a computer permanently connected to the Internet (i.e. requiring a *dedicated line* aka *leased line*). However, a web site publisher does not need to own or run its own server. In fact, most web site publishers just rent space in a server of an external company.

Basically, a web publisher has three broad options:

1. To rent space in one/some servers owned by an external company\* (i.e. *hosting*)

- Without his own domain name; in this case the web site address will be like *www.servername.ch/company-name*
- With his own domain name (i.e. *virtual server* or *multihoming*): in this case the web site address will be: *www.company-name.com*

*Advantages: low investment/operating costs, simplicity*

2. To own his own server(s) but to have it/them at the premises of an external company \* (i.e. *housing*): this is an intermediate solution

3. To have his own server(s) and dedicated line in his own premises

*Advantage: full control but this is the most costly and complicated option.*

\* An external company can be any company but it is typically a *Web Presence Provider (WPP)* aka *Internet Presence Provider (IPP)* or *Internet Service Provider (ISP)*.

Note: several web sites (e.g. [www.netscape.com](http://www.netscape.com), [www.geocities.com](http://www.geocities.com), [www.tripod.com](http://www.tripod.com), [www.altern.org](http://www.altern.org), many of them call themselves *community sites*) offer *free hosting* of web sites. Why do they do so? For at least three reasons:

1. The hosting is free but the site building must be done by the user or a consultant associated with the Web Presence Provider.
2. The addresses of these web sites have the following format: [www.geocities.com/something-else-rather-long](http://www.geocities.com/something-else-rather-long) (it cannot simply be: [www.company-name.com](http://www.company-name.com)). Based on the above definitions, this corresponds to *option 1 without multihoming*). Therefore, the publisher of such a web site makes free advertisement for his free Web Presence Provider (i.e. in this case: Geocities).
3. Thanks to the huge traffic of users that this strategy brings, Web Presence Providers are able to successfully market paying services such as online advertising.

# Key Criteria to Choose a *Web Presence Provider (WPP)*

## Preliminary explanations and comments:

*Web Presence Providers (WPP)* are also called *Internet Presence Providers (IPP)* or - more generally - *Internet Service Providers (ISP)*.

WPP allows web site publishers to be *present* in the Net. WPP should not be mistaken with *Internet Access Providers (IAP)* which allow users to *have access* to the Net. This is the same difference as between making a TV show and viewing a TV show.

Most IAP are also WPP, even though these two services are quite different. A company offering overall Internet-related services (including some content) is called an *Internet Service Provider (ISP)*.

Internet users connect necessarily to a local IAP (even though this IAP may be the affiliate of an international company) in order to minimise their telecommunication costs. By contrast, ***web site publishers can use WPP located anywhere in the world***. As a matter of fact, many European and Asian companies host their sites in American WPP (where fees are lower and access speed is faster).

When a regular Internet user visit in a web site, he cannot know where the site is hosted.

Companies registering their web site in the USA receive domain names ending with .com, .org, .net, etc. However, having a web site with a .com, .org, .net, ... suffix does not mean *at all* that the site is hosted in the USA or that the company is an American company. In order words, suffix, company nationality and location of servers are three completely unrelated matters.

It is (quite) inconvenient to use a low performing IAP. However, to host one's commercial site in a low performing WPP is a pure catastrophe since it directly affects potential users (including potential clients).

## Criteria to choose a WPP:

- *Fees*: excellent WPP offer full packages for between US\$ 20 and 100 per month.
- The *speed of access* is of prime importance since it will *contribute* to determine the speed at which users will access one's site. Speed of access is complex and is influenced by elements such time of the day (i.e. usage level of the Net) and location of the users. Speed of access of a WPP varies greatly from month to month since the number of their clients may increase while they may not upgrade their

infrastructure accordingly. The best practical way to know the speed of a WPP is to conduct regular tests from different part of the globe and at different times of the day.

- *Associated services* provided are also essential (e.g. own CGI bin, FrontPage extensions, e-commerce turnkey solutions, ...) but their technicalities go beyond the scope of this manual.
- The *reliability* is important as well. The reputation of a WPP is often the best guide available to web site publishers.
- A *good security level* must be ensured to make certain that malicious users (aka hackers) will not alter one's web site or access (and even alter) confidential databases.
- *Technical support* is crucial as well. Most WPP have very poor services because the Net has grown so fast that the supply of qualified technicians is completely insufficient.

#### Observations:

- Within a single country, most WPP offer very similar packages.
- Most professional sites should be hosted/housed in Internet-advanced countries, even if the targeted markets are elsewhere. Examples of reputable WPP include [www.verio.com](http://www.verio.com), [www.hway.com](http://www.hway.com), etc.
- The above criteria apply not only for *hosting* but also - to a large extent - for *housing* and for companies owning their own servers (in fact, they will need to go through an WPP, unless their traffic is very significant).

Concerning developing countries, there is a rather good news and a rather bad one:

- > *Rather good news*: companies of any country can host their web site in the best WPP at very competitive prices even if their local WPP infrastructure is very expensive (or unreliable) for instance due to high leased line costs (see Appendix 10). However, some associated services (e.g. online payment-related are for the time being open to local companies only).

Note: in order to load or update a web site in a WPP (located anywhere in the world), it is required to use a local IAP but for only a very short period of time (e.g. one minute). Therefore, it is not a significant problem if the local IAP (or the local phone company) is unreliable or highly expensive.

- > *Rather bad news*: it is not essential to have a good (or cheap) IAP to host properly a web site. However, good and low cost IAP are important because they encourage people to use intensively the Internet and to develop a sense for it; beside high

performing IAP are required to develop local e-commerce markets. We will also see in the next section that many virtual shops must be created online which necessitates performing IAP.

*Policy-related note:* developing countries have interest in fostering an efficient IAP and telecommunication structure. However, countries which prohibit hosting in foreign countries run the risk of preventing local companies to exploit the commercial opportunities offered by the Internet.

## The Different Categories of Virtual Shops (1) (from a technical viewpoint)

There are many ways to build a virtual shop. However, based on the kind of software used, we can classify them into four categories, as illustrated in the tableau of the next page. Importantly, each category has very different implications/requirements in terms of infrastructure.

Summing up the key elements:

- B-to-B sites (without online ordering capabilities) fit well into *Category 1* where local infrastructure requirements are minimal. Therefore, companies of even least developed countries can very easily take full advantage of this category.
- As concerns *Categories 2 & 3* - more suitable for high volume B-to-C shops, developing countries with deficient or expensive Internet, banking & telecommunication infrastructure are at a clear disadvantage.

Therefore, we believe that companies in developing countries should, for the time being,

- Concentrate in *Category 1* web sites, suitable for B-to-B transactions (in particular if the number of transaction is reduced and the volume per transaction is important).
- Not focus their efforts to take orders online but rather use a web site as a supporting element of the sales process.
- Concentrate their effort to reduce interaction costs rather than to increase sales.

*It could be noted that similar advice applies to most companies in developed countries, particularly those outside the USA.*

## The Different Categories of Virtual Shops (2)

| Description  | Advantages   | Disadvantages  | Suitable for  | Comments re developing countries (DC)   |
|--|--|--|---|---|
| <b>1. Simple web site developed with a web editor (e.g. MS FrontPage) and hosted in an external server (approximate cost*: about \$100 per month)</b>  | <ul style="list-style-type: none"> <li>&gt; Simple and flexible</li> <li>&gt; Can be easily hosted anywhere in the world</li> <li>&gt; Easy to update offline and batch-upload changes.</li> </ul>   | <ul style="list-style-type: none"> <li>&gt; To develop full-fledge e-commerce solutions (incl. shopping cart, product database, automated online payments) requires too much effort</li> </ul> | <ul style="list-style-type: none"> <li>&gt; B-to-B sites without online ordering capabilities</li> <li>&gt; B-to-C virtual shops with small volume and few product updates</li> </ul> | <ul style="list-style-type: none"> <li>&gt; Very suitable if the local infrastructure is deficient because the web site is updated locally offline and is hosted in a foreign server. Besides, very limited online time is required.</li> </ul>                             |
| <b>2. Full-fledge shopping software which is part of an ISP (e.g. Verio.com, store.yahoo, e-comptoir.com) (approximate cost*: about \$200 per month)</b>   | <ul style="list-style-type: none"> <li>&gt; Simplicity (if somewhat inflexible solutions are chosen): by far the simplest way and cheapest way to have a full-fledge virtual store</li> <li>&gt; Includes several key payment-related services.</li> </ul> | <ul style="list-style-type: none"> <li>&gt; Extended flexibility require advanced programming skills</li> <li>&gt; Update must be done online</li> </ul>                                       | <ul style="list-style-type: none"> <li>&gt; All e-tailers having low cost Internet access except perhaps very high volume e-tailers</li> </ul>  | <ul style="list-style-type: none"> <li>&gt; Since updates are done online, this solution makes sense only if Internet access costs are low.</li> <li>&gt; Many ISPs accept only local (e.g. U.S.) companies, specially as far as payment services are concerned.</li> </ul> |
| <b>3. Full-fledge shopping software run in one's own servers (e.g. MS Site Server, IBM Net Commerce, Intershop, iCat, ...)</b><br>(approximate cost*: setup: \$ 15,000 plus about \$ 1000 per month) | <ul style="list-style-type: none"> <li>&gt; Extreme flexibility and business process integration (accounting, inventory control, ...)</li> </ul>   | <ul style="list-style-type: none"> <li>&gt; Requires full-time technicians</li> <li>&gt; Required own dedicated servers</li> </ul>   | <ul style="list-style-type: none"> <li>&gt; Very high volume e-tailers</li> </ul>   | <ul style="list-style-type: none"> <li>&gt; Not suitable for DC since requires low access/presence costs (unless servers are housed in countries like the USA).</li> <li>&gt; Business process integration makes limited sense in low labor cost countries.</li> </ul>      |
| <b>4. Complete own development (setup: \$ 100,000 to several millions)</b>   | <ul style="list-style-type: none"> <li>&gt; Complete flexibility</li> </ul>  | <ul style="list-style-type: none"> <li>&gt; (Prohibitive) development costs</li> </ul>   | <ul style="list-style-type: none"> <li>&gt; Very high volume e-tailers willing to pay for the best. (Most of them are well into the red figures).</li> </ul>                          | <ul style="list-style-type: none"> <li>&gt; Same comments as above</li> </ul>   |

\* includes: SW, HW, ISP/IAP and telecommunication costs; excludes human resources costs. These costs are valid for the USA. Costs in other countries are typically much higher.

# Web Security

An open network like the Internet requires some level of protection. In broad terms, two different elements must be protected:

## 1. Protecting web sites

Fraudulent users (aka hackers) may attempt to alter the content of a web site. In addition, these hackers may try to have access to confidential databases (e.g. clients' database) linked to a web site. Even worse, hackers may even penetrate a complete company computer system through their Internet presence.

No site can be 100% protected but the objective of protecting a site is to *discourage* enough potential *hackers* so that the required efforts to crack a web site or a computer system are not worth it.

Typically, large reputable Web Presence Providers provide enough security to the sites they host. However, companies managing their own servers will need to take care of their own security. If confidential information is hosted, such a task often is difficult and expensive primarily because people specialised in security matters are in very high demand.

The typical piece of hardware used to protect a web site is called a *firewall*.

## 2. Ensuring the security of transmitted data

It is not enough to protect a web site and all the databases and computer systems linked to this site. Data which are exchanged between the site and its users must sometimes be encrypted so they cannot be deciphered by unauthorised third parties.

Today, this encryption is working fine and is easy to install either in web site and in e-mail (even though it is not much used with e-mail). Web sites which ensure encryption of transmitted data are easily recognisable because the lock appearing at the bottom of the screen is closed (see Appendix 13). Companies like [www.verisign.com](http://www.verisign.com) offer - among other things - encryption tools for both web sites and e-mail.

However, the above two elements are by far not sufficient to ensure safe transactions/payments, primarily because they do not allow reciprocal *identification* of the contracting parties. For a detail discussion of these aspects, please refer to the payment sections.

# Payments Systems (1)

Currently, there are too many reliable systems for online payments. Moreover, these systems are usually even better than the existing offline systems. However, the issue is that none of these systems is broadly accepted as a technical standard by merchants, customers, banks and other involved parties. It is a typical commercial war of technical standards.

(Reminder: most B-to-B transactions require no online payments making matters much simpler for them!).

Being realistic, several systems are likely to dominate the online payment market:

1. *Netscape's SSL*: despite its weaknesses, this system is by very far the most used one because it happens to have been one of the first in the market.

2. *SET (standing for Secure Electronic Transactions)*, a system developed or supported by Visa, MasterCard, American Express, IBM, Microsoft, Verisign etc. This system is satisfactory but it requires some non-negligible investments from banks, credit card processors, merchants and even users. Its major drawback is that it cannot deal with micro-payments. However, given the strong support it has received, it is likely to gain market share. An associated system is the *C-SET* (originally developed by Bull) which works with *smart cards* (aka *chip cards*) capable of handling micro-payments. However, few consumers currently have chip card readers linked to their computer.

Note: the SET system is penetrating very slowly developing countries (as well as other countries) because of the heavy infrastructure it requires.

3. *Traditional offline methods* (e.g. "against documents", letters of credit, simple invoices, cash on delivery) are here to stay, specially for large amounts in B-to-B transactions.

## Notes:

- Many e-merchants offer several payment systems to their clients.
- They are actually many other payment systems: some are new; others are already dead and some are purely local.

The next tableau analyses in detail different payment systems and recommends some of them for particular uses. A special emphasis is given on the security criteria. Indeed, in order to be fully secure (e.g. both for merchants and buyers), a system must guarantee the following elements:

- Confidentiality of transmitted data (no *snooping*)
- Identification of sellers & buyers
- Verification of buyers' solvency (aka authorisation)
- Guaranteed delivery, non repudiation and integrity of transmitted data

## Payments Systems (2)

### TRADITIONAL SYSTEMS

| <b>System</b>   | <b>Comment</b>  | <b>Point of view of the buyer</b>   | <b>Point of view of the seller</b>   | <b>Recommended for: (seller's standpoint)</b>  |
|---|---|---|--|--|
| <b>Bill to-be-paid later is shipped with the sold goods</b>                                       | Typical for the mail order industry in some "safe" countries (e.g. Japan, Germany, Switzerland)   | Safe and convenient   | Rather practical but can be risky. Possible only if buyers' are largely honest and solvent or if their records can be easily verified.   | <ol style="list-style-type: none"> <li>1. Small transactions in "safe" countries</li> <li>2. Fully trusted (repeat) customers</li> </ol>   |
| <b>Pre-payment</b>  | Quite rare.   | Risky.  | Safe but most buyers would not even try.   | Whenever the seller is well known and fully trusted.   |
| <b>Cash on delivery (COD)</b>   | Typically limited to a few neighbouring countries. Fees typically vary from US\$ 1 to 15 per transaction.   | A little risky because is a sort of prepayment.   | Rather safe but there is an administrative burden  | Transactions above US\$ 100 to (domestically or to neighbouring countries) provided the seller is reputable enough.  |
| <b>Letters of credit</b>  | Well established in international Business to Business large transactions   | Rather safe but somewhat expensive and cumbersome   | Rather safe but somewhat expensive and cumbersome  | Large international transactions between two partners who do not fully trust each other  |
| <b>Credit card (data are transmitted by phone, fax, mail or with Internet without encryption)</b> | <i>Data confidentiality:</i> NO;<br><i>Solvency check:</i> YES but manually;<br><i>Identification of both parties:</i> NO.<br><i>Guaranteed delivery, ...:</i> NO | Handy and fully safe (despite the rumours of the opposite). However, most buyers are afraid of this method they <i>perceive</i> as unsafe.. | The sellers take ALL the risks because they cannot formally identify buyers (i.e. absence of physical signature). This risk can be reduced by consulting black lists. The manual solvency check (aka authorisation) is somewhat administratively time-consuming and the fee is rather high (~4-5%). Not adequate for micro-transactions. | Small (but not micro) domestic or international transactions being aware that <ul style="list-style-type: none"> <li>- Sellers bear ALL the risks of fraud</li> <li>- The number of buyers is reduced since they do not feel safe</li> </ul> |

## NEW SYSTEMS

| <b>System</b>   | <b>Comment</b>  | <b>Point of view of the buyer</b>   | <b>Point of view of the seller</b>  | <b>Recommended for: (seller's standpoint)</b>  |
|---|---|---|---|--|
| <b>Credit card or e-wallet (transmitted data are SSL encrypted)</b> | <i>Data confidentiality:</i> YES;<br><i>Solvency check:</i> YES (sometimes automatically);<br><i>Identification of both parties:</i> NO.<br><i>Guaranteed delivery, ...:</i> NO | Same as the above credit card method with two differences:<br>1. Buyers <i>feel</i> safer<br>2. Micro-payments are possible (not with credit cards but with e-wallet) |   |  |
| <b>Credit card with SET</b>   | <i>Data confidentiality:</i> YES;<br><i>Solvency check:</i> YES (automatically);<br><i>Identification of both parties:</i> YES.<br><i>Guaranteed delivery, ...:</i> YES         | Safe and handy. However, a buyer will always need to make its purchase from the same computer (where his certificate is located)                                      | Risk is virtually zero and commission is reduced (~2-3 %?). Not adequate for micro-payments.  | This system will probably become a standard (except for micro-payment). However, this system requires heavy investments and is therefore being spread slowly.                                  |
| <b>Credit card (or smart card aka chip card) with C-SET</b>         | <i>Data confidentiality:</i> YES;<br><i>Solvency check:</i> YES (automatically);<br><i>Identification of both parties:</i> YES.<br><i>Guaranteed delivery, ...:</i> YES         | Safe and handy but the buyer needs a chip card reader   | Risk is virtually zero and commission is reduced (~2-3 %?). Also adequate for micro-payments. | This system will probably become a standard (included for micro-payments). However, this system requires heavy investments (including chip card readers) and is therefore being spread slowly. |

# Payment Platforms

As we have seen earlier, many transactions do not necessarily occur online because many companies use their web site only as a sales support tool. Besides, even if some part of the transaction occur online, payments do not need to be (fully) realised online.

However, in some cases, given the large volume of transactions, it is necessary to have all steps realised automatically and online. This part may not be crucial for developing countries right now but it will become important sooner or later.

Typical steps in a payment process include:

- Authorisation (i.e. solvency check)
- Address verification check
- Identification of contracting parties
- Matching against black lists (aka fraud databases)
- Capture (aka fulfilment)
- Accounting entries

Note: each payment method has its own steps. The above list is simply an illustration of some typical steps but it does not correspond to any specific payment method. In addition, very often, one or several steps cannot be done automatically and online for some technical reasons: as an example, a small bank may not have direct access to the world-wide databases of VISA cardholders; therefore, the address verification check needs to be carried out manually (e.g. by fax), if the transaction amount warrants it.

In some countries (primarily in the USA), several companies (such as [www.ibill.com](http://www.ibill.com)) offer automated online payments. These companies are often called *credit card processors* since most of the online payments are done using credits cards. Besides, recently, some large Web Presence Provider (such as [www.verio.com](http://www.verio.com), [www.hway.com](http://www.hway.com)) and some large integrated cybermalls (such as [store.yahoo.com](http://store.yahoo.com), [www.cybershop.com.sg](http://www.cybershop.com.sg), [www.justnet.ne.jp](http://www.justnet.ne.jp), [www.commercemaker.com](http://www.commercemaker.com)) offer full e-commerce packages which typically include credit card processing. However, this part is normally available to domestic companies only.

## The One-to-One Marketing (aka Mass Customisation)

A web site is said to have *one-to-one marketing* functions when it adapts itself to each user. Moreover, a web site which can *anticipate* its users' tastes is said to use *data mining* applications.

Sites providing one-to-one marketing and data mining applications require specialised programming skills. Technically speaking, they are the *creme de la creme* and consequently they draw a lot of public attention. However, the expenses to program and fine tune these kinds of sites are often extravagant: therefore, many of them are making large (initial?) losses.

Obviously, these types of sites are not, for the time being, priority web sites for developing countries. However, we still take the opportunity to analyse the way they work.

What are elements which can vary in a web site depending on the user (type)?

- The content (text incl. language, banners, ...)
- The presentation of the content (e.g. layout: see Custom CNN)

Primarily as a function of what do the above parameters vary?

- Of the data *keyed in* by users themselves (interests, profile, search keywords, transactions incl. purchases...)
- Of the traces *left* by users (approximate place of residence, ...)

*Note: Data/traces can be entered/left either in visited sites or in their associated sites.*

What are the typical commercial applications of one-to-one marketing/data mining?

- Targeted advertising
- Customised e-zines (e.g. Custom CNN)
- Sales suggestions

## What Can a Web Site Publisher Know About his Users Based on Their “Traces”?

There is much hype about the fact that Internet is killing our individual privacy. Let's see in detail which data a web site publisher can know about his users based on the traces they leave.

- An IP address (e.g. 195.186.11.236) & a corresponding DNS address (e.g. gem11pub236.bluewin.ch) which are usually *dynamically attributed* (i.e. an IP address is different for each connection) by an IAP. In other words, by analysing the IP/DNS addresses, **Big Brother can deduct the *probable and approximate place of residence* but not the exact identity of his users.**
- All about his users' past and present surfing (i.e. when, which pages and in which order) on a given site or on a given group of associated sites
- From which web page users are coming from (*referring URL*) e.g. from which advertising banner.
- The browser and the operating system (including the language version) used by his users.

***Important note: the information that a publisher can know about his users against their will is much less than what is generally thought.*** A user who absolutely wants to leave no exploitable trace can use (and pay for) some specific services (e.g. [www.anonymizer.com](http://www.anonymizer.com))

However, a site publisher can remember all data that a user has himself ***voluntarily entered***, during for instance:

- > A subscription
- > An interaction (e.g. a purchase, ...)
- > Some keyword-based searches

A publisher can also recognise his users from one session to an another one using one of the following techniques:

- > A so-called *cookie* located in his users' hard disk
- > *Usernames/passwords* that must be entered by his users (unless they are stored in a cookie). Usernames/passwords are then compared with an identification database.

Data about users are stored either

- > In the users' PC in a cookie (under the users' direct control)
- > In one of the publisher's computers (not under the users' direct control)
- > In one of the publisher's associates' computers (not under the users' direct control)

Technical note: when visiting a site, a user leaves traces in several places, at least in:

- > The server of the visited site
- > The server of the Internet Access Provider (IAP)
- > His own PC and in the proxy of his internal network (if any)

Assuming that site publishers, IAP and network administrators were to keep all traces and exchange information, it could be technically possible to find out from which PC (but not necessarily by which person) a site has been visited at a given time. This assumption is fully unrealistic unless maybe in case of an important judiciary process.

## Search Tools

Search tools are important for at least two reasons. First of all, Internet is an important source of business-related information and to be able to search for information is essential. Second, a publisher of a web site must be able to use search tools as one the way to make his web site popular.

There are many types of search tools. The most important are:

- Directories (such as [www.yahoo.com](http://www.yahoo.com)) are lists of sites *selected and classified by human beings*, normally based on the quality of sites. Some directories like [www.yahoo.com](http://www.yahoo.com) work largely based on applications of webmasters; by contrast, [www.miningco.com](http://www.miningco.com) (sometimes dubbed "expert guides") does not accept suggestions from anybody and they like to claim to be less "politically correct" than Yahoo. Directories can also specialise in specific topics (e.g. in law: [www.findlaw.com](http://www.findlaw.com), see Appendix 14; in international trade such as [www.intracen.org](http://www.intracen.org) (INFOTRADE section); in a specific country such as Singapore: [www.sg](http://www.sg), see Appendix 15)
- Search Engines (such as [www.altavista.com](http://www.altavista.com), [www.excite.com](http://www.excite.com), [www.lycos.com](http://www.lycos.com), [www.infoseek.com](http://www.infoseek.com)) used robots (aka spiders) to search days and nights for new sites. The best search engines used to be able to cover the Net nearly fully; however, in 1999, the Internet has become so big that it seems that these search engines cover only about 30 percent of the Internet. Needless to say that search engines have by far more sites than directories. However, the sites of directories are usually of better quality. Some search engines are also country-specific (such as [www.sear.ch](http://www.sear.ch) for Switzerland).
- Meta-Search Tools (such as [www.profusion.com](http://www.profusion.com), [www.metagopher.com](http://www.metagopher.com), [www.metacrawler.com](http://www.metacrawler.com)) do not perform their own searches but use the results of large search engines and directories. Given the size of the web, meta-search tools are probably the best way to run comprehensive searches.
- Pattern-based search engines (such as [www.google.com](http://www.google.com), [www.directhit.com](http://www.directhit.com)) are novel search tools. They observe people's surfing behaviours to determine which sites are most appreciated. The search results from these new tools tend to be quite different from the results provided by the more classical search tools.
- "Manual" services (such as [www.rapide.net](http://www.rapide.net)) are done for a fee by real people who are experts in using search tools. Normally, very specific questions are asked and an answer - if found - is given within 24 hours. The services rendered by these experts

are valuable because inexperienced users can spend hours to find an information a specialist would locate in a matter of minutes.

Notes:

a. There is a clear tendency that high traffic sites become Internet *portals* that is web sites trying to offer all what users need as an entry point to the Net. Typical services of portals include search tools, shopping sections, yellow pages, e-mail address directories, web e-mail, e-zines, community services, etc.

b. There are thousands of search tools but only a handful stands out. Large search tools spend several dozen million dollars per year in advertising expenses.

c. Some search tools specialise in mailing lists, newsgroups or e-mail addresses. Please refer to the specific sections.

For a web site publisher, it is important to build his sites in such a way that they are highly visible by the *key* search tools. It is also essential to declare them properly in these search tools. To do so, one must know the parameters that search tools use to draw a list of recommended site. The typical parameters are as follows:

- Domain name
- Page title
- Page content (i.e. frequency and location of key words)
- Specific meta-tags (i.e. programming codes which are specially visible by search engines)
- The way a site has been declared (e.g. using specific descriptions and key words) in a search tool.
- Fees paid to search tool publishers (this last item seems to gain in importance!)

Which parameters from the above list are the most important ones? It depends on the search tools. Moreover, search tools typically vary regularly the relative importance of these parameters while some other use parameters which are not disclosed to the public. The purpose of this secrecy is to minimise the so called *search engine spamming* (i.e. a mediocre site manages to be top listed many times for a certain category).

When performing a search for a popular item like "tennis", more than one million web page will be referred to. To be top listed (e.g. among the top 10) has become nearly a full time job and specialised agencies (such as [www.top-10.com](http://www.top-10.com)) provide this service for a fee. Moreover, to be top listed has become so competitive that it is now necessary to make one dummy home page for each important search engine.

The best online reference regarding search tool matters is probably the site [www.searchenginewatch.com](http://www.searchenginewatch.com)

## A Few Other Internet-Specific Services

The Internet is surprisingly resourceful but is fundamentally different from the "real" world. As a consequence, many services which can be found in the Net have no equivalent outside the Internet. A selection of these *sui generis* services is as follows.

- Web rings are sites of similar content which are linked in a circular way. In other words, each site is linked to another (and only one) web site of the same ring. Therefore, users can visit one by one all sites of the ring until they come back to the original site. Some specific software (e.g. [www.webring.com](http://www.webring.com)) helps manage this applications.
- Banner exchanges (e.g.: [adnetwork.linkexchange.com](http://adnetwork.linkexchange.com); [swissbanner.ch](http://swissbanner.ch)) allow web sites to advertise for free in related web sites. Under this scheme, each participating site must reserve a space for banners of other sites while its own banner appears in turn in all other sites. Typically, a participating member receives two impressions of his banner and gives three impressions to other sites. The remaining third is used or sold by the moderator of this scheme.
- Incoming links checking tools allow a web site publisher to know which sites have put a link to his site. The search engine [www.altavista.com](http://www.altavista.com) offers this function. To do so, users must type "link:www.yoursite.com" in the search field.
- Push channels allow users to receive updated web sites automatically, i.e. without having to look for them (i.e. without having to "pull" them). Several software are available for this purpose (e.g. [www.marimba.com](http://www.marimba.com); [www.memoweb.com](http://www.memoweb.com)). Some push channels are even installed by default in the Microsoft Windows 98 operating systems. Besides, web editor software like Microsoft FrontPage allows the creation of push channels but these ones can only be used by Microsoft Explorer web browsers. Generally speaking, we notice a lack of standards and cross-product compatibility as far as push channels are concerned.
- URL redirectors (e.g. [iscool.net](http://iscool.net)) allow a web site to have a domain name which redirects users to another frequently changing domain name. Prohibited web sites (e.g. unauthorised political propaganda) often use these redirectors. Note: it is also possible that several domain names redirect users to a single web site (Example: [www.InternetCommerce.ch](http://www.InternetCommerce.ch), [www.EurekaGroup.net](http://www.EurekaGroup.net) and [www.EurekaShop.com](http://www.EurekaShop.com) all direct users to the very same site). This feature is very useful in case of change of domain

names. It is also highly practical to anticipate spelling mistakes: for instance, [www.leshop.ch](http://www.leshop.ch) redirect users to [www.le-shop.ch](http://www.le-shop.ch)).

- *Adult check* systems (e.g. [www.adultcheck.com](http://www.adultcheck.com)) require users of adult content sites to enter a special password. These passwords must be purchased using credit cards and are sold only to people who have reached a certain age. An adult check password may work for several thousands web sites or for a single web site. Note: similar systems are also used by proper paying web sites such as e-zines [wsj.com](http://wsj.com), [www.chinaonline.com](http://www.chinaonline.com) and [www.economist.com](http://www.economist.com).
- *Parental control* systems (e.g. [www.cyberpatrol.com](http://www.cyberpatrol.com)) allow parents to control their children's use of the Internet. The main controlled parameters are the time spent online and the types of sites which are blocked (e.g. pornography, plain racism, extreme violence, ...). These schemes require the collaboration of questionable web sites. Many U.S. pornographic web sites do *voluntarily* collaborate with these schemes, probably for fear of being *imposed* a more stringent control. However, many pornographic web sites hosted outside the USA often do not collaborate with these schemes.
- *Rating services* (e.g. [www.bizrate.com](http://www.bizrate.com); [www.truste.com](http://www.truste.com); [www.casetrust.com](http://www.casetrust.com)) are very useful to build confidence among merchant web sites. Under this scheme, each user of commercial web sites is invited to rate them using a set of criteria. Results are freely accessible by all. Other rating services use professional evaluators rather than users. Most rating services charge a fee to merchants willing to be rated.

# **3. STRATEGIC & COMMERCIAL ASPECTS**

## The Different Added Values of an Internet/Extranet/Intranet Presence

As emphasised earlier, we believe that it is a mistake to think of the Internet as a mere tool for selling goods and services online. Indeed, the major weakness of the Internet is that it is a set of *cold computers* and, as such, it is rarely a good tool to acquire *new* clients. However, the Internet is generally an excellent tool to deal with *existing customers and other existing business associates* in the sense that it can be used very effectively to provide them with a better service and/or to drastically reduce all types of interaction costs.

In order to define sound Internet-based applications, it is essential to analyse each target group separately. Examples of potential applications for some target groups are:

Users: user's manual, after-sales services, list of repair centres.

Final buyers: information about products, list of retailers (see Appendix 16), (error-proof or handy) online ordering (see Appendix 19), reference projects, order status (see Appendix 17), related services

Resellers: inventory levels, online ordering, commercial policy, product information, order status

Suppliers: inventory level, tender documents, orders on hand, integrated sales forecasting

Media: press releases, contact people, photo database, reference projects (see Appendix 18).

Investors, shareholders: letters to the shareholders, share (historical/current) values, links with online brokers

Job market: jobs available, employment policy, applicants' questionnaire

Employees: all internal information which must be shared/communicated e.g. travel expenses, internal newsletter, order status, order management, etc.

## **Remarks**

- Online sales sometimes cannibalise offline sales. However, a web presence can help to generate offline sales as well.
- Initially, specific (offline) actions are usually necessary to entice (internal or external) users to use a particular site.
- Reductions of interaction costs may sound negligible but they are very far from being so. For example, thanks to online web after-sales support, Cisco (world leader in networking equipment) managed to double its support staff between 1994 and 1999 while its sales increased by 600% during the same period. Another telling example: to make a payment costs about US\$10 at a bank counter, 0.27 cents using an ATM but only 15 cents using the web.

## **How to Generate “Qualified” Traffic**

**(«qualified» = potential (even probable) clients/business associates)**

To build a web site is often easy and can even be relatively inexpensive. However, the crux of the matter is rarely the creation of a site but its promotion.

To reach notoriety and build household brand names, many large U.S. e-tailers (such as [www.Amazon.com](http://www.Amazon.com) and [www.cdnow.com](http://www.cdnow.com)) launched multimillion advertising campaigns. As a consequence, they had to suffer gigantic losses, sometimes nearly as big as their revenues.

This model is however hardly applicable outside the US, where risk capital and stock exchanges such as NASDAQ are not readily available. Besides, we believe that part of the art of e-commerce is the ability to reach fame at (relatively) low cost. The below list should help cyber-entrepreneurs to build web traffic and instil confidence among their users.

### **Online methods**

- *Search tools*, particularly the best known ones and the one specialised in one's domain of activity. (See specific section as well).
- *Advertising banners*. Most web sites accept advertising banners and charge per impression (about US\$ 30 for 1000 impressions). The more targeted the content of the web site, the more expensive the fee. Typically, advertising banners are (hyper)linked to the web site of the advertiser. In average, about 0.5 percent of users click in an advertising banner (i.e. *click thru rate*).
- *Sponsoring*. Some web sites are sponsored in an analogous way a sporting event is sponsored.
- *Interstitials* are advertisement web pages which appear for a few seconds before another page is downloaded.
- *Advertising pop up windows* (see Appendix 20).
- *Discussion groups* can be effectively used to promote a site, provided that this is done abiding by the rule of the discussion groups (i.e. direct advertisements are often prohibited).

- *Mass e-mailing* can be very effective and very dangerous at the same time. It is best to build one's own database of people willing to receive information about new products. See specific section as well.
- *Associate programs (aka affiliates program)* are used by most large sites such as [www.amazon.com](http://www.amazon.com) or [www.dell.com](http://www.dell.com). See Appendix 21. Under this scheme, associated sites refer to a main site for a commission. Some companies such as [www.linkshare.com](http://www.linkshare.com) specialise in organising associates programs.
- To offer *free services* is often an excellent way to get known at low cost. There are plenty of possibilities of free services such as search tools, (web) e-mail, hosting, useful content, etc.
- *Common check out*. Under this scheme, several (normally two or three) companies team out to have a common check out web page where some services are proposed. See Appendix 22.

### **Offline methods**

- *Traditional (i.e. print) mass-mailing* are effective - if well targeted - but are expensive.
- *Presence in fairs, railways stations, (press) conferences, ...* can be effective as well.
- *Use of existing infrastructures* (shops, own newspapers or newsletters, ...) are essential. Large established companies (e.g. retail chains, famous computer companies, ..) enjoy a particularly important advantage here.
- *Classical ads* (in TV, newspapers, radio, billboards) are effective but expensive.

### **Final remarks**

Online methods are often adequate to generate *traffic* but not necessarily suitable to generate *confidence* (i.e. a key ingredient in business). The latter is generally better done by offline actions.

Obviously, it is much easier to generate *qualified traffic* among one's colleagues (intranet), one's regular suppliers/clients (extranet) than among unknown potential customers. This explains the success of intranets/extranets and B-to-B applications and the difficulty to sell profitably product to new (unknown) end-buyers.

The above list is not exhaustive. Very often successful e-merchants devise novel ways to get "fame at low cost".

## Conflicts Arising from Competing Distribution Networks

Typically, manufacturing companies have spent many decades to build a network to commercialise their products. These networks encompass companies such as exporters, wholesalers, importers, retailers, etc. The building of such a network is expensive for manufacturers as well as for the members of their network who must make large investments to build their own clientele.

In addition, most of these distribution networks are well regulated. However, the Internet, given its ubiquity, has a tendency to violate the regulations of established networks. In particular, the following parameters cannot be easily respected:

- Territorial exclusivity
- Price differences between “territories”
- Sequential distribution chain (a wholesaler - respectively a manufacturer - cannot freely circumvent his retailers - respectively his wholesalers - )

As a consequence, many manufacturers are not interested, for the time being, in using Internet as a distribution channel. What's more, some manufacturers may even be prepared to do whatever is required to kill cyber-merchants, particularly if they dump prices.

If e-commerce had a significant weight, it would not be necessary to worry about the established distribution networks. However, since in most industries e-commerce is still a small portion of the total trade, we have to take into consideration established networks and anticipate their reactions.

How to tackle these issues? Here are some possible solutions:

- To jointly agree on policies dealing with price, product range, etc. Internet can be regarded as a specific territory (in analogy with mail-order companies)
- To prevent - as much as possible - users from some countries to access a site. Alternatively, to have country-specific price lists (e.g. travel-related web site [www.travelocity.com](http://www.travelocity.com)) or to deliver to some countries only.
- To deal only with new markets.
- To make only direct sales (e.g. computer company [www.dell.com](http://www.dell.com))

Despite all the above mentioned difficulties, we still observe a trend whereby some manufacturers (e.g. Nike, Levi's) start to sell directly to their end-clients using the Net, despite the vociferous reactions from their distribution networks.

As far as developing countries are concerned, many companies dream to circumvent foreign exporters who are believed to take excessive margins. Internet can be a powerful tool here but very violent reactions from established exporters must be expected. For this reason, it is sometimes necessary to act covertly (e.g. under a different company name) and to concentrate mostly in new export markets. Besides, to reduce promotional expenses, several local companies of the same industry may team up.

## How to Choose a Commercial Platform?

In the Internet (like outside the Net), manufacturers/retailers can choose between various commercial infrastructures. This is illustrated in the next page.

### Special explanations regarding *cybermalls*

A cybermall is comparable to a brick-and-mortar shopping centre (U.S.: mall) or a department store. A cybermall can bring the following services to their virtual tenants:

- Traffic and notoriety (thanks to e.g. advertising actions and/or the presence of famous anchor tenants).
- Software to build a virtual shop (sometimes with a uniform layout and with a common virtual shopping basket) as well as hosting of sites.
- Payment platform (incl. credit card merchant umbrella contract).
- Common general sales conditions.
- Statistics.

The more services a cybermall offers (and generally the less flexible it is) the more it is considered as "*integrated*".

There are many non integrated cybermalls since they are very easy to build (it can just be a list of hyperlinks). There are much less integrated cybermalls (which are very complicated and expensive to build), most of them being local, for at least part of their services (e.g. payment-related). Some examples are mentioned in the next page.

Most integrated cybermalls target consumers while non integrated cybermalls target both consumers and businesses. At any rate, this targeting is somewhat theoretical. As an example, our branded neckties web site [www.OnlineTies.com](http://www.OnlineTies.com) originally targeted only consumers. However, nearly 30% of the volume is sold to retailers who buy large quantities.

At this point, the reader may not understand well the differences between several concepts: technical platforms, web presence providers, payment platforms, software used to build commercial web sites and commercial platform. In broad terms, the difficulty stems from the fact that these services can either be fully separated or they can be offered as a complete one-stop solution. Any intermediate stage can be found as well. Most integrated cybermalls try to offer a full one-stop package. However, specially for developing countries, it is usually - for legal or contractual reasons - necessary to find some services outside the one-stop package.

## The Different Commercial Platforms

| <b>“REAL”<br/>WORLD (for<br/>comparison<br/>purposes)</b>          | <b>EQUIVALENT<br/>IN THE NET</b>           | <b>COMMENTS</b>   | <b>EXAMPLES</b>   |
|--|--|---|---|
| <b>Own boutiques<br/>or shops</b>                                  | <b><i>Virtual solo<br/>storefront</i></b>  | This strategy entails that it is up to the publisher of the storefront to attract “qualified” users to his site   | - <a href="http://www.levi.com">www.levi.com</a>  |
| Own boutiques or shops but located within a <b>shopping centre</b> | <b><i>Non-integrated<br/>cybermall</i></b> | Usually these non-integrated cybermalls provide a simple link to many commercial web sites. These cybermalls often attract traffic using advertisement, editorial content, etc. By extension, most portal sites (Netscape, Geocities, Alta Vista. ...) now have a shopping section and they can be considered as non-integrated cybermalls.   | - <a href="http://www.altavista.com">www.altavista.com</a>  |
| Specific department within a <b>department store</b>               | <b><i>Integrated<br/>cybermall</i></b>     | These platforms typically offer an array of services: traffic generation, virtual shop building software, secure payment platform, etc. Normally, these cybermalls do not deal with cash collection and logistics. These cybermalls usually offer a reduced graphical flexibility but they allow easy and low-cost first steps in e-commerce. | - <a href="http://Cybershop.com.sg">Cybershop.com.sg</a><br>- <a href="http://store.yahoo.com">store.yahoo.com</a><br>- <a href="http://www.e-comptoir.com">www.e-comptoir.com</a><br>- <a href="http://www.justnet.ne.jp">www.justnet.ne.jp</a> (See <a href="#">Appendix 23</a> ) |
| Full integration within a <b>supermarket</b>                       | <b><i>Virtual<br/>supermarket</i></b>      | In fact, this option is the same as the “virtual solo storefront” with the difference that the e-merchant is not a manufacturer but a middleman.  | - <a href="http://www.amazon.com">www.amazon.com</a><br>- <a href="http://www.onlineties.com">www.onlineties.com</a>  |

## Key Ingredients of Effective Web Sites

Many companies assign the definition and implementation of their Internet strategy to their *technical team*. Consequently, the *technical complexity* of their Internet strategy is maximised, not the added value to the company's stakeholders (i.e. clients, shareholders, employees).

Many companies assign the definition and implementation of their Internet strategy to *web designers*. Consequently, the *set up and maintenance costs* of their Internet strategy is maximised, not the added value to the company's stakeholders (i.e. clients, shareholders, employees).

To prevent the above pitfalls, we have listed some ingredients that an effective commercial web site should have.

- It *generates confidence*. For this purpose references to reassuring real world elements are instrumental. Example: pictures of company premises, known logo, postal address, pictures of company directors, ... Needless to say that a correct writing is useful to create a good impression.
- It is *fast and user-friendly*. Corollary: fancy graphics and animations which require much time to be downloaded (and which even require some special plug-in software) must be used parsimoniously if not banned. In other words, a web site should not be a showroom of the webmaster's technical abilities.
- Its purpose is to *communicate, not to decorate*. In other words, each element of a web site should be well thought. It must be emphasised that designs for print publications should not be directly used for web sites for a least three reasons: 1. colours and layout of a computer screen cannot be fully controlled by a web site publisher; 2. the definition of a screen is reduced; 3. downloading time must be minimised by all means: this prevents the use of large graphics. As Yahoo management once puts it "if to be successful e-businessmen requires to have the ugliest web site, so we are happy to have the ugliest web site!"
- It is *easy to update and scale up*. If possible, even unskilled clerks should be able to update most data. Warning: many web designers make sure that it is very difficult to have their sites updated or scaled up, except by themselves.

- It is *permanently operational*. Theoretically, every web site is accessible 24 hours per day, 365 days per year. However, there are many technical reasons why a site cannot be accessible and even the most professional sites have some down time. Therefore, the objective should be to minimise this down time e.g. by choosing a reliable Web Presence Provider.
- It has *enough protection to deter most hackers*. As seen earlier, no web site is fully hacker-proof but web sites should render fraudulent uses difficult enough so that (most) hackers prefer to "try" other sites.
- It is *profitable either in terms of cost reduction or increase of revenues*. Sound business models must be developed. As emphasised before, the purpose should not be to have a web site but to increase the (long-term) value to the company stakeholders. For this aim, a web site can be a useful tool but is neither a condition nor a goal in itself.

## Know-how Specific to Distance Selling

Most new e-businesses are created by manufacturers or traditional wholesalers/retailers. In most cases, they completely underestimate the difficulties arising from distant selling. This issue is specially acute for B-to-C applications. In an attempt to minimise unpleasant surprises, we have listed below the key difficulties generated by distance selling:

- Packing, addressing, stamping, shipping
- Return/defect goods management
- Warehousing, stock management
- Dealing with unsold goods
- Customers database management and loyalty-enhancing actions
- Payment collection and legal actions
- Export-related paperwork

Many Internet retailers have solved these problems by hiring employees or consultants with significant experience in the mail-order industry.

Finally, it is common to claim that, thanks to the Internet, inventories will be significantly reduced and that e-merchants will only manage a virtual platform without dealing with physical goods. The thinking is that manufacturers will deliver sold goods in small quantities directly to buyers (aka "*drop ship*"). In reality, this is only possible if:

- Manufacturers are equipped and willing to ship small quantities. In order to entice them to make the required investment, forecasted volumes must be quite large.
- An effective delivery/postal system is available which is the case in few countries only.

To reach this "drop ship" stage is actually exceptional. Even e-commerce giants like [www.amazon.com](http://www.amazon.com) must keep huge amounts of inventories.

Developing countries often face difficulties in shipping small quantities due to losses, delays and high freight costs. In order to mitigate these problems, the so-called *re-posting* services can be used (offered e.g. by [www.tnt.com](http://www.tnt.com)). Under this scheme, small parcels are sent in bulk (e.g. once a week) to a given country and then redistributed to the local post for final delivery.

## Challenges of Sites Targeting International Markets

It is common to view the world-wide web as a tool which is necessarily global. However, many successful e-merchants prefer to act locally. Indeed, even though a web site can be indiscriminately viewed from anywhere in the world, the following barriers can motivate many e-merchants to target their efforts to their country or even region.

- *Expensiveness of international shipping* (incl. returned goods). Indeed, to ship goods internationally is often many times more expensive and slower than to do it locally. This is a particular problem for low value B-to-C transactions but is less a problem for large B-to-B transactions.
- *Increased marketing costs to obtain qualified traffic, fame and confidence.* As we have seen, it is expensive/difficult to make a web site known. Obviously, it is much easier to do it locally than globally.
- *Increased risks of fraudulent payments.* There are many countries where effective local payment systems have been developed (e.g. USA, Switzerland, Japan). To accept deliveries on a world-wide basis normally increases the risk of frauds.
- *Foreign languages* (incl. 2-byte Asian characters). Most web users understand English but may not be proficient enough to dare to realise transactions.

### Important closing remarks

All the above observations are generalities and there are many cases where global strategy are not only possible but also ideal. An example is [www.chinaonline.com](http://www.chinaonline.com) (see Appendix 24), a web site selling business information about China and delivered through the Net to easily targetable groups of individuals spread all over the world. In addition to the cases whereby the delivery of goods occurs through the Internet, other successful examples include cases whereby Internet Sites are used primarily as a mean to help the sales process.

## Legal Aspects

There are many thick books written about the legal implications of e-commerce. We believe that business is a matter of confidence and risk assessment and that, in most cases, it is counterproductive to dig into too much legal details. However, to minimise the risks of legal problems, we have listed below a few legal crucial aspects. It should be emphasised that these are generalities and regulations in some countries may differ.

- *Are contracts agreed upon through the Internet valid?* Yes, provided that written or even notarised documents are not required (which is exceptional and reserved for e.g. real estate transactions). However, it is important that the web site is clearly perceived as a *binding offer* and not a simple unbinding promotional message.
- *How can we irrefutably prove that a contract has been agreed upon?* For this purpose, digital signatures are required. Without well accepted digital identifications, each party may repudiate the agreement. Therefore, without these signatures, only small contracts should be concluded through the Internet, unless both contracting parties have full mutual confidence.
- *Taxation:* if goods are downloaded/sent through the Internet, custom duties do not apply since no physical goods have been shipped. However, Value Added Taxes (VAT) do apply. Note: this taxation part is likely to be more country-specific than other items in this page.
- *Copyrights* must be abided to. Despite some new technological advances in this field, enforcement often remains virtually impossible.
- *Mass e-mailing:* see special section in the next page.
- *Applicable laws & competent tribunals* must absolutely be specified in the general conditions. Determination by default must be avoided. (Stringent) US law should, whenever possible, not be specified due to the existence of contingent fees, class actions and product liabilities. By default, there is an emerging trend that the country of origin (i.e. of the seller) will have jurisdiction (as opposed to the country of receipt (i.e. of the buyer)).

## Regulations Governing Mass e-Mailing

*Mass e-mailing* (aka *bulk e-mailing*) can be a very powerful and low cost promotional tool. However, unsolicited (and untargeted) promotional mass e-mailing (aka *spam*) can be illegal and are usually not appreciated by their addressees.

Legally, the following rules typically apply in most countries:

- The *content of mass e-mails should not be illegal* (e.g. child pornography).
- *Addressees can at any time request to be erased from a mailing list* (aka opt-out option). Note: Americans favour the more stringent « opt-in option » whereby bulk mailers must ask their addressees in advance if they wish to receive promotional e-mails.
- *Addressees can at any time (and for free) access and alter information about them.*

It should be noted that most companies violating these rules are located in countries where they cannot be (easily) sued.

What is most annoying to addressees is to receive *untargeted* e-mails (i.e. having no relations with their interests), much more than receiving *unsolicited* e-mails. Therefore, we do not see any problem if a manufacturer from a developing country contacts by e-mail a myriad of potential buyers in developed countries. On the contrary, buyers may even appreciate efficient direct contacts which may signify lower sourcing costs to them. At any rate, it is always important to indicate in mass e-mails how addressees could easily be erased from a mailing list.

# **4. CONCLUSIONS**

## Key Success Factors of Commercial Web Sites

Based on the experiences of the most successful web sites, we came out with the below table. It must be stressed that our measures of success are *short-term* profit and *long-term* financial prospects and that we have completely disregarded the popularity and the beauty of web sites. Needless to say that virtually no web site meets all the below mentioned criteria.

| <b>Key Success Factors (KSF)</b>   | <b>Examples illustrating KSF</b>   |
|--|--|
| <b>Clear added value which is perceived as such</b>                            | Competitive prices, broad selection, handy ordering process, abundant product-related information, ...   |
| <b>Low cost site promotion</b>   | Existing communications channels (e.g. newsletters, newspapers, physical outlets, ...) can be used at no incremental cost.   |
| <b>Absence of major conflicts with major established forces</b>                | Direct sellers, new players (e.g. from developing countries).  |
| <b>Most potential customers are Internet users</b>                             | Web sites offering computer-related products or products targeting young people.   |
| <b>Products are easy to deliver</b>  | Goods which can be digitalised (e.g. text).  |
| <b>Sites maximising added value and not technical complexity or aesthetics</b> | See <a href="http://www.chinaonline.com">www.chinaonline.com</a> , <a href="http://www.boxman.se">www.boxman.se</a> , <a href="http://www.yahoo.com">www.yahoo.com</a> |
| <b>Most importantly: drastic reduction of interaction costs.</b>               | See section "The Different Added Value of an Intranet/Extranet/Internet Presence"  |

## **e-business: Opportunities and Obstacles**

On several occasions, we have emphasised that it is much easier for companies in developing countries to develop Business-to-Business strategies without online ordering capabilities than Business-to-Consumer strategies requiring online ordering capabilities and huge promotional costs. This statement is by the way also true for most companies in developed countries.

We have also advocated that it is easier to use the Net as a tool to reduce interaction costs and *helps* the sales process rather than as a tool to acquire new unknown customers.

The below tableau intends to formalise these thoughts. Opportunities have plus (+) signs while obstacles have (-) minus signs.

| <b>Goals</b>  | <b><i>B-to-B</i></b>   | <b><i>B-to-C</i></b>   |
|---|--|--|
| <b>Acquire new clients</b>  | <ul style="list-style-type: none"> <li>+ <i>Help</i> get new clients</li> <li>- Promotion</li> <li>- Physical delivery (if any)</li> </ul>   | <ul style="list-style-type: none"> <li>+ Get new clients</li> <li>- - Promotion</li> <li>- Payment system (but in USA, CH, Japan...)</li> <li>- Payment fraud</li> <li>- - Physical delivery (if any)</li> </ul> |
| <b>Reduce interaction costs</b><br>(incl. order taking with existing clients) | <ul style="list-style-type: none"> <li>+ + Many opportunities with existing customers, suppliers, employees, press, ...</li> <li>- High Internet access costs (in some countries)</li> </ul> |  |

## **e-commerce: some Die-Hard Myths**

The Internet phenomenon has generated hype galore. Besides, relevant information is tightly controlled by large e-commerce products vendors. Hence, several die-hard myths have been perpetrated. These myths even seem to gain in importance and lead many executives to wrong decisions. We try here to re-establish the truth.

- *Myth 1: using the Internet, it is easy to make one's company and its products known world-wide.*  
Truth: NO: marketing costs are typically prohibitive
- *Myths 2: with the advent of the Internet, intermediaries will disappear.*  
Truth: NO: most manufacturers are not equipped and not willing to deal with end-customers
- *Internet businesses are global.*  
Truth: NO: prohibitive marketing costs make them more often than not sectorial, local, Intranet or Extranet-like.
- *SME and large corporations are on the same footing in the virtual world.*  
Truth: NO: established brand names and financial resources are clear advantages to large MNC.
- *In the Internet, to purchase with credit card is risky for the buyer.*  
Truth: NO: sellers bear the risk of fraud.

## e-commerce in Developing Countries: some Die-Hard Myths

It is customary to think that Internet will widen the gap between rich nations and the developing countries.

In reality, a large part of e-commerce is very much *knowledge-intensive* rather than *capital-intensive*. In addition, most Internet-related technical knowledge is widely accessible at virtually no cost, either in web sites or in books. Commercially, virtually no company in the world can claim to have a long experience in e-commerce: in other words, everybody is a (near)-beginner in this field. Since one of the major costs of an Internet strategy is human resources, ***low-labour-cost developing countries have here a significant advantage.***

In addition, many knowledge intensive and high-value added services could be perfectly offered by companies in developing countries: some examples of these services include: declaration in search engines (so as to be top listed), manual searches, market intelligence (i.e. observation of competitors' moves).

As far as the infrastructure is concerned, we have to take a differentiated approach:

### *1. Internet Access*

Internet access is close to free in the USA, rather expensive in Europe & Japan and unbelievably expensive in many developing countries. It is true that companies can perfectly run a web site with very limited access time. Access is only required for updates. However, if access is not important to run a web site, it is very important to learn about the Internet: indeed many hours of surfing are required to get a feel of this new media. Therefore, we advocate that all governments, as an ingredient for their national competitiveness, find solutions so that Internet access become cheap in their countries.

### *2. Internet Presence*

To host a web site e.g. in the U.S. can be very done easily and at low cost. In this sense, the ubiquity of the Internet nearly annihilate the negative effects of deficient or too expensive local infrastructure.

### 3. *Related Infrastructure*

Several complete e-commerce packages are offered by e.g. U.S. Internet Service Providers. However: 1. Some key parts of these packages (e.g. related to online payments) are often open to local companies only; 2. These web sites must be created and updated while being online; therefore, low cost Internet access is required.

It must be emphasised again that companies not planning to take orders online (e.g. in the B-to-B segment) have much less difficulties stemming from *Internet access* and *related infrastructures*.

## Opportunities for Developing Countries

In addition to all the Internet opportunities for developing countries we have mentioned, we would like to point out several additional ideas of projects which could be ideally implemented in developing countries:

- Setting up of a *National Cybermall* to be massively advertised among tourists. The rationale is that issues like online payments, shipping and promotion would have to be solved once only. (The site [www.cubaweb.cu](http://www.cubaweb.cu) is an interesting case mentioned among the coming examples)
- Setting up of *National Portal Site*, as a privileged entry point for users interested in a country. The Singaporean site [www.sg](http://www.sg) is an excellent example.
- *Creation of e-commerce field schools*. e-commerce is so new that it can barely be learned in a traditional school or university. Indeed, practical experiences are required for both students and teachers. The idea is to create few (subsidised?) companies where employees must try for good to use the Internet as a commercial tool; these employees would not be paid and they would be allowed to work for only one year; they would also be required to write publicly available reports summarising their experiences.
- *Government-to-Citizen and Government-to-Citizen applications* (e.g. tax form declaration; enquiries by citizen about their social security benefits; voting, enquiries by companies about the financial solvency of other companies). The enormous advantages of these projects are that the population gets use to work with the Internet and that governments become less expensive. Specific solutions must however be found to palliate the lack of Internet access at home or at the workplace. In this regard, it must be emphasised that Brazil is one of the most advanced countries in the world regarding the use of Internet for voting and tax declaration.

## **A Check-List for Action**

More likely than not, readers do not know where to start from at this point. For this reason, we include here a small checklist of what must be done to define and implement an Internet strategy.

### ***Strategic Matters***

- How do we want to use the Internet (if at all)?
- What will be the content of the site(s)?
- How will we promote the site(s)?
- How will we deliver our sold products (if any)?
- How will we integrate Internet in our company business processes? Shall we re-engineer our business processes?
- How to create awareness among employees and how to train them?

### ***Human Resources Allocation***

*Who will take care of the following items? Shall it be done with internal or external resources?*

- Management of the strategic process and of its implementation
- Site creation: content, phrasing, layout, code writing, ...
- Site regular content update
- Site/server technical maintenance and occasional upgrade
- Training of the above people
- Site promotion

### ***Important "technical" decisions to be taken***

*Note: all the three below items are mutually linked and influence many other parameters*

- Technical platform (own server hosting? housing? which IAP, which WPP? which payment system? which payment platform )
- Software (web site editor, e-commerce package, ...)
- Commercial platform (solo strategy? (integrated?) cybermall? ...)

# 5. EXAMPLES

## [www.Amazon.com](http://www.Amazon.com) (see Appendix 26)

### Description

Amazon is one of the major e-tailer (Internet retailers) in the world. It is based in the USA and is quoted at the NASDAQ. In 1998, Amazon sales were above US\$ 610 million while its losses exceeded US\$ 124 million, primarily due to huge marketing costs. Its headcount (early 1999) is of 1200 employees. Amazon started as a virtual bookstore but it diversified to other more or less related fields: CD, videos, gifts, auctions, etc. It has been attacked very fiercely by Barnes & Nobles (B&N), a giant U.S. chain of traditional bookstores: indeed, B&N opened a similar web sites at discounted prices and it bought Ingram, i.e. Amazon's major supplier.

|   |  |
|---|--|
| <p style="text-align: center;"><b><u>Major Inherent Strengths</u></b></p> <ul style="list-style-type: none"><li>● A web site using state-of-the-art technology and offering many fancy features including personalized services</li><li>● A lot of financing since most investors are very bullish about the possibilities of e-commerce</li><li>● Amazon had nearly become a household brand</li><li>● Amazon received a lot of free advertisement since it was a pioneer.</li></ul> | <p style="text-align: center;"><b><u>Major Inherent Weaknesses</u></b></p> <ul style="list-style-type: none"><li>● Enormous promotional costs despite all the free publicity it received</li><li>● Significant software development costs</li><li>● Relatively high sourcing costs due to a comparatively low sales volume</li><li>● To be in direct competition with major established players (Barnes &amp; Nobles, Bertelsmann, ..)</li></ul>                   |
| <p style="text-align: center;"><b><u>Major Potential Opportunities</u></b></p> <ul style="list-style-type: none"><li>● To be able to reduce promotional costs</li><li>● More sales since the number of people fearing online purchase will diminish</li><li>● To continue leveraging its credibility and traffic by offering additional related online services. In this fashion, Amazon is becoming less vulnerable to B&amp;N's fierce attacks.</li></ul>                           | <p style="text-align: center;"><b><u>Major Potential Threats</u></b></p> <ul style="list-style-type: none"><li>● The continued retaliation of powerful offline and online competitors</li><li>● Companies like <a href="http://www.oohoo.com">www.oohoo.com</a> that work exclusively with digital books which can be printed, one by one, at the place of reception.</li><li>● Investors will stop being nearly blind about the realities of e-commerce</li></ul> |

### Which major lessons can be learned for this example?

- A high tech web site running traditional advertisement campaigns makes often enormous (initial?) losses, despite the fact that, as a pioneer, it received a lot of free publicity.
- The strong retaliation of traditional retailers (e.g. Barnes & Nobles)

**www.Positively-You.com** (see Appendix 27)

**Description**

This web site is run from home as a hobby by Mr. Bowlin, the director of the Small Business Development Center at the University of Northern Iowa. Mr. Bowlin, a book lover, has neither employee no specific office. His wife does the shipping while his daughter deals with accounting. Its total monthly expenses amount to only US\$ 150. However, he has nearly the same product range as Amazon. He does not spend any cent for advertisement: he just refers his site in search tools and tell his many friends about his site. Word-of-mouth does the rest. This site has been featured in several major newspaper such as the International Herald Tribune. Financial figures are not disclosed but Mr. Bowlin claims that with the money he makes he could easily stop working in his main job.

|  |   |
|--|---|
| <p style="text-align: center;"><b><u>Major Inherent Strengths</u></b></p> <ul style="list-style-type: none"><li>• An extremely simple and cheap web site which however has all the essential features</li><li>• Positively You Is too small to be directly attacked by major traditional players</li></ul> | <p style="text-align: center;"><b><u>Major Inherent Weaknesses</u></b></p> <ul style="list-style-type: none"><li>• Using such a strategy it is nearly impossible to expand fast</li></ul>   |
| <p style="text-align: center;"><b><u>Major Potential Opportunities</u></b></p> <ul style="list-style-type: none"><li>• This experience could be duplicated to other products</li></ul>   | <p style="text-align: center;"><b><u>Major Potential Threats</u></b></p> <ul style="list-style-type: none"><li>• If it were to grow too much, competitors would launch attacks for instance by forcing Positively Your's suppliers to raise their price</li></ul> |

**Which major lessons can be learned for this example?**

- A very small company with a shoestring budget can be a successful e-commerce player.

**www.CDnow.com** (see Appendix 28)

**Description**

CD now is one of the most famous international e-tailers (Internet retailers). It is based in the USA and it is quoted at NASDAQ. In 1998, CD now sales of CD were above US\$ 50 million while its losses exceeded US\$ 40 million, primarily due to marketing costs of about US\$ 30 million.

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| <p style="text-align: center;"><b><u>Major Inherent Strengths</u></b></p> <ul style="list-style-type: none"><li>● A web site using state-of-the-art technology and offering many fancy features including personalized services</li><li>● A lot of financing since most investors are very bullish about the possibilities of e-commerce</li></ul> | <p style="text-align: center;"><b><u>Major Inherent Weaknesses</u></b></p> <ul style="list-style-type: none"><li>● Huge promotional costs</li><li>● Important software development costs</li><li>● Relatively high sourcing costs due to a comparatively low sales volume</li></ul>  |
| <p style="text-align: center;"><b><u>Major Potential Opportunities</u></b></p> <ul style="list-style-type: none"><li>● To be able to reduce promotional costs</li><li>● To leverage its credibility and traffic by offering additional related online services.</li></ul>  | <p style="text-align: center;"><b><u>Major Potential Threats</u></b></p> <ul style="list-style-type: none"><li>● The continued retaliation of powerful offline and online competitors</li><li>● New music-related digital technologies (e.g. MP3)</li><li>● Investors will stop being nearly blind about the realities of e-commerce</li></ul> |

**Which major lessons can be learned for this example?**

- A high tech web site running traditional advertisement campaigns makes often enormous (initial?) losses, despite the fact that, as a pioneer, it received a lot of free publicity.

**www.BOXMAN.se** (see Appendix 26)

**Description**

Boxman is a Swedish-based CD retailer. In 1998, its sales were about US\$ 15 million while its bottom line was roughly breaking even despite its explosive growth. Boxman was established in 1997 in Sweden. It then expanded gradually to its neighboring countries (Norway, Finland, Denmark) and later to France and the UK.

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| <p style="text-align: center;"><b><u>Major Inherent Strengths</u></b></p> <ul style="list-style-type: none"><li>● Well-known shareholders (e.g. rock stars) which were fully instrumental in making Boxman famous</li><li>● Boxman' business is driven by an uncommon business acumen rather than by technical considerations</li><li>● A solid brand name in some European markets</li></ul> | <p style="text-align: center;"><b><u>Major Inherent Weaknesses</u></b></p> <ul style="list-style-type: none"><li>● -</li></ul>  |
| <p style="text-align: center;"><b><u>Major Potential Opportunities</u></b></p> <ul style="list-style-type: none"><li>● Global expansion</li><li>● Expansion to new related segments to leverage its credibility and traffic (i.e. à la Amazon)</li></ul>  | <p style="text-align: center;"><b><u>Major Potential Threats</u></b></p> <ul style="list-style-type: none"><li>● In its international expansion, can Boxman duplicate its successful strategies of its home Nordic European markets?</li><li>● New MP3 digital technology</li></ul> |

**Which major lessons can be learned for this example?**

How to promote a web site at low cost (i.e. how to reach fame at low cost).

**www.CASCAHUIN.com.mx** (see Appendix 30)

**Description**

Tequila Cascahuin (TC) was founded in 1904 in the state of Jalisco in Mexico. In 1999, it employed 80 people, primarily in its agave plantation and distillery. Tequila Cascahuin used to sell only domestically. However, as from 1991, TC also became a subcontractor of an international company using its own label. In 1998, Tequila Cascahuin's revenues have reached about US\$ 1.5 million.

In mid 1998, Tequila Cascahuin launched a bilingual (Spanish-English) web site ([www.cascahuin.com.mx](http://www.cascahuin.com.mx)). In addition, Tequila Cascahuin contacted proactively by e-mail many chambers of commerce, World Trade Centres and importers; the new web site has also been registered in the major Internet directories dealing with wines and liquors. Consequently, the offer of Tequila Cascahuin has been listed (with reference to the web site) for the first time in print trade publications of several countries. Less than one year after the beginning of these commercial actions, new clients in the USA, France, Philippines, Argentina and China had been acquired. According to Tequila Cascahuin, these new clients represent annualised incremental sales to the tune of US\$ 3.5 million.

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| <p style="text-align: center;"><b><u>Major Inherent Strengths</u></b></p> <ul style="list-style-type: none"><li>• Tequila Cascahuin had enough credible references to be trust by potential buyers. Moreover, Mexico (in particular the state of Jalisco) has a high reputation as far as tequila is concerned.</li></ul> | <p style="text-align: center;"><b><u>Major Inherent Weaknesses</u></b></p> <ul style="list-style-type: none"><li>• To gather useful e-mail addresses is time-consuming but this is less of a problem in low wage countries.</li></ul>                   |
| <p style="text-align: center;"><b><u>Major Potential Opportunities</u></b></p> <ul style="list-style-type: none"><li>• Additional expansion using the Internet</li><li>• Tequila Cascahuin, being a pioneer in a developing country, may be widely referred to which will signify free publicity galore.</li></ul>        | <p style="text-align: center;"><b><u>Major Potential Threats</u></b></p> <ul style="list-style-type: none"><li>• The number of companies understanding the need to be proactive will grow making Tequila Cascahuin's strategy less effective.</li></ul> |

**Which major lessons can be learned for this example?**

- How to use a web site as a sales *support* tool
- The absolute need to be proactive since a web site *per se* is not aggressive enough to generate new sales

**www.eBay.com** (see Appendix 31)

**Description**

eBay is a person-to-person Internet trading community in which users buy and sell personal items in an *auction* format. Product categories include antiques, dolls, coins, computers, stamps, memorabilia, trading cards, and jewelry. Sellers pay a fee to have their items placed on the company's Web site, where potential buyers browse and make bids on merchandise. If an item sells, eBay will charge the seller a percentage of the closing price. By mid 1999, there were more than 2 million items for sale in eBay web site. eBay is quoted at the Nasdaq and is based in California. In 1998, its sales reached US\$ 47.4 million and its net income US\$ 2,4 million. eBay employ 1398 people and is one of the few large e-commerce companies showing profits.

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| <p style="text-align: center;"><b><u>Major Inherent Strengths</u></b></p> <ul style="list-style-type: none"><li>● Reduced competition from the traditional world</li><li>● A well established brand name</li></ul>   | <p style="text-align: center;"><b><u>Major Inherent Weaknesses</u></b></p> <ul style="list-style-type: none"><li>● -</li></ul>  |
| <p style="text-align: center;"><b><u>Major Potential Opportunities</u></b></p> <ul style="list-style-type: none"><li>● eBay has teamed up with a major traditional auctioneer (i.e. Butterfield &amp; Butterfield) and will enter the upscale online auction market.</li></ul> | <p style="text-align: center;"><b><u>Major Potential Threats</u></b></p> <ul style="list-style-type: none"><li>● Internet auctions has been widely recognized as a major future industry and the number of serious competitors is increasing rapidly.</li></ul> |

**Which major lessons can be learned for this example?**

- The soundness of offering a novel service which does not have real equivalent in the real world and which is most suited to the Internet.
- The importance to penetrate this new market rapidly and to establish a leadership position.

**www.chocolats-rohr.ch** (see Appendix 32)

**Description**

Chocolats Rohr is a small Geneva-based chocolate manufacturer cum retailer. They sell their chocolate in several small boutiques located in downtown Geneva. Their web site was built by Roger Rohr (the son of the owner) in his spare time and without having received any formal programming training. Roger Rohr owns and runs his own servers and even hosts sites for acquaintances. Chocolats Rohr teamed up with a dozen of other chocolate makers in Switzerland and they use a common entry point ([www.chocolat.ch](http://www.chocolat.ch)) Two years after the beginning of the web site, they say that only about half a dozen orders are received per month. Typical orders are between US\$ 50 and 100, shipment included.

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| <p style="text-align: center;"><b><u>Major Inherent Strengths</u></b></p> <ul style="list-style-type: none"><li>• Their collaboration with a dozen other similar retailers</li><li>• Roger Rohr is not afraid of technicalities and of learning.</li><li>• Since they are manufacturer and retailer, they do not have to fight against an established and exclusive distribution network and they do not have to worry too much about low initial volumes.</li></ul> | <p style="text-align: center;"><b><u>Major Inherent Weaknesses</u></b></p> <ul style="list-style-type: none"><li>• Chocolate is heavy and fragile. Therefore, individual shipping is expensive and delicate.</li><li>• They do not need their own servers and dedicated line. This makes things more complicated and expensive to run. However, by hosting web sites for others, they can recover this investment.</li></ul> |
| <p style="text-align: center;"><b><u>Major Potential Opportunities</u></b></p> <ul style="list-style-type: none"><li>• Important: to use <i>systematically</i> their stores to promote their sites, in particular to tourists.</li><li>• They will build up business with time. Since, they have a stable main business, they are not in a hurry.</li></ul>  | <p style="text-align: center;"><b><u>Major Potential Threats</u></b></p> <ul style="list-style-type: none"><li>• -</li></ul>   |

**Which major lessons can be learned for this example?**

- The importance to use existing offline infrastructure to promote an online presence.
- To set up and run one's own server (which technically much more involved than to create a simple web site) can be done by a self-learning layman.

**www.Cubaweb.cu** (see Appendix 25)

**Description**

Cubaweb is a kind of Cuban portal site. Cubaweb has several affiliated sites offering for instance Cuban music, rental cars in Cuba and news (from Granma, the communist party newspaper). Cubaweb teams up with a Canadian bank so that they can accept credit card payments with online processing. The three above mentioned applications had an increasing success and, by mid 1999, daily sales of Cuban music CD has reportedly reached 10 items per day. The below analysis concentrates on Cuban music only.

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| <p style="text-align: center;"><b><u>Major Inherent Strengths</u></b></p> <ul style="list-style-type: none"><li>● It is difficult to find Cuban music outside Cuba. There is therefore a real need for such a product.</li><li>● Many potential clients live in the USA (Cuban refugees in Miami) and have Internet access.</li><li>● The collaboration with the Canadian bank.</li></ul> | <p style="text-align: center;"><b><u>Major Inherent Weaknesses</u></b></p> <ul style="list-style-type: none"><li>● Given their small potential volume, classical &amp; isolated advertising campaigns are not likely to be worth the expense.</li></ul> |
| <p style="text-align: center;"><b><u>Major Potential Opportunities</u></b></p> <ul style="list-style-type: none"><li>● To rope in other merchants and to run common promotional campaigns</li></ul>   | <p style="text-align: center;"><b><u>Major Potential Threats</u></b></p> <ul style="list-style-type: none"><li>● What they do can be very easily imitated by other countries.</li></ul>   |

**Which major lessons can be learned for this example?**

- How an unfulfilled demand can be covered with the Net
- The possibility/desirability to collaborate with developed countries for some items (e.g. online payments).

## [www.ChinaOnline.com](http://www.ChinaOnline.com) (see Appendix 24)

### Description

China Online is an e-zine (electronic magazine) providing business information about China based on 180 Chinese publications as well as on privileged personal contacts. This new company headquartered in Chicago has 25 employees. According to its managers, ChinaOnline.com is visited 26,000 times per month. The subscription fee is about US\$ 200 per month. Some additional revenues are generated by advertising banners. The number of subscribers as well as the financial results are not disclosed. ChinaOnline.com web site is technically very simple but effective.

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| <p style="text-align: center;"><b><u>Major Inherent Strengths</u></b></p> <ul style="list-style-type: none"><li>• Top quality and well organised content</li><li>• Such an e-zine is well suited for the Net since people interested in China are spread all over the world. Besides, deliveries occur through the Net.</li><li>• China Online's manager, Lyric Hughes, is highly familiar with China.</li></ul> | <p style="text-align: center;"><b><u>Major Inherent Weaknesses</u></b></p> <ul style="list-style-type: none"><li>• The difficulty to convince potential clients to pay a fee for an e-zine despite the fact that Internet is often associated with gratuity</li></ul> |
| <p style="text-align: center;"><b><u>Major Potential Opportunities</u></b></p> <ul style="list-style-type: none"><li>• This e-zine is mostly known in the US but its potential market is the world.</li><li>• Versions in foreign languages (e.g. Japanese) could be launched.</li></ul>   | <p style="text-align: center;"><b><u>Major Potential Threats</u></b></p> <ul style="list-style-type: none"><li>• Some large publishers could relatively easily penetrate this market in a big way</li></ul>   |

### Which major lessons can be learned for this example?

- A successful collaboration between a developed country and a developing nation. If China Online were fully based in China, it would probably have been very difficult to market its site and to raise enough seed capital.
- The importance of personal contacts

**www.iPrint.com** (see Appendix 31)

**Description**

iPrint.com was launched in California in January 1997 by a team of software developers and print industry experts. iPrint objective is to introduce the most complete, fully automated, self-service online creation, ordering, and commercial printing environment that the industry has ever seen. iPrint.com is targeting both consumers and the more than 30 million small business owners in the United States. iPrint has about 50 employees. Its financial results are not released.

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| <p style="text-align: center;"><b><u>Major Inherent Strengths</u></b></p> <ul style="list-style-type: none"><li>• Fully automated &amp; revolutionary system which saves a lot of human resources costs (both on the client and on the supplier side).</li><li>• By being part of business rating system (<a href="http://www.bizrate.com">www.bizrate.com</a>), iPrint is able to generate a good level of confidence.</li><li>• Reordering is very easy so that clients are likely to make repeat purchases.</li></ul> | <p style="text-align: center;"><b><u>Major Inherent Weaknesses</u></b></p> <ul style="list-style-type: none"><li>• -</li></ul>   |
| <p style="text-align: center;"><b><u>Major Potential Opportunities</u></b></p> <ul style="list-style-type: none"><li>• International development: for instance in cartel-prone Switzerland, business cards costs six times more than by iPrint! (sic)</li></ul>  | <p style="text-align: center;"><b><u>Major Potential Threats</u></b></p> <ul style="list-style-type: none"><li>• Their system will probably be emulated many times included by companies located in low labour cost countries.</li></ul> |

**Which major lessons can be learned for this example?**

- How the Internet can revolutionise an industry.

**www.Schindler.com** (see Appendix 18)

**Description**

Schindler is a global Swiss-based multibillion industrial group whose major products are elevators and escalators. Only the simplest elevators can be bought using the Internet. However, Schindler uses its web site quite effectively to reduce interaction costs with the media, potential employees, the financial community (including shareholders), potential clients, etc. Intranets are also used for disseminating the corporate technical catalog (i.e. a series of large files which must be updated regularly and distributed to more than 1000 branches) as well as the corporate spare parts catalogue.

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| <p style="text-align: center;"><b><u>Major Inherent Strengths</u></b></p> <ul style="list-style-type: none"><li>• Since Schindler's site deals mostly with employees and existing business associates, the acceptance and confidence level starts from a high plateau.</li></ul> | <p style="text-align: center;"><b><u>Major Inherent Weaknesses</u></b></p> <ul style="list-style-type: none"><li>• Limited access means less interaction with clients</li></ul> |
| <p style="text-align: center;"><b><u>Major Potential Opportunities</u></b></p> <ul style="list-style-type: none"><li>• Intensification of the use of these sites. New similar applications.</li></ul>  | <p style="text-align: center;"><b><u>Major Potential Threats</u></b></p> <ul style="list-style-type: none"><li>• Security has to be assessed constantly</li></ul>               |

**Which major lessons can be learned for this example?**

The *relative* ease to introduce Intranet/Internet sites designed to reduce interaction costs since the users are employees and existing business associates rather than (unknown) new clients.

## **6. APPENDICES 1-33**