

# Fixed-line and mobile Internet commerce for hotels.

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## Abstract

This paper reviews the results of a project called Internet commerce for hotels. At the stage for formulating the project (back in 1999) fixed-line Internet usage was the sole form of Internet usage. However, from early year 2000, mobile Internet came to the fore in a debate, which we can now call hyped. It was claimed that there would be more fixed-line Internet users than mobile Internet users by the end of 2003. However, in October 2000, the writer predicted that there would be many more fixed-line Internet users than mobile Internet users by the end of 2003, even in Western Europe, and that situation will continue in the foreseeable future. Anyway, a great deal of emphasis was put on the mobile aspect of Internet commerce – for hotels. The sections of this paper follows the five sub reports of the project:

- Fixed-line Internet commerce for hotels.
- Mobile phones, WAP and the Internet.
- Mobile data and m-commerce in Europe.
- WAP for business travellers – An expert survey.
- Early adopters of WAP for hotels – European case studies.

The paper will be rounded off with a discussion of the relative importance of fixed-line vs. mobile data (mobile Internet) services for hotels.

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### Note:

Web-site of this project, with several documents in pdf: <http://www.crt.dk/uk/staff/chm/wap.htm>

## Introduction

The Internet is becoming a very important medium for making information about travel and tourism services available to business and leisure tourists alike. To make bookings online is becoming increasingly common, also for hotel accommodation. This paper reviews the results of a project called Internet commerce for hotels.

### Research questions:

1. What are the *choices/options* for hoteliers - with respect to generating revenue via Internet sales?
2. *Who* - what types of Internet actors - what options - brings *how much* business to hotels via the Internet - and *how*?
3. What are the *implications*? (What new *opportunities and challenges* does the Internet present as a sales channel for hotel properties?).

At the stage for formulating the project (back in 1999) fixed-line Internet usage was the sole form of Internet usage. However, from early year 2000, mobile Internet came to the fore in a debate, which we can now call hyped. It was claimed that there would be more fixed-line Internet users than mobile Internet users by the end of 2003. In light of this a great deal of emphasis was put on the mobile aspect of Internet commerce - for hotels.

## Methodology

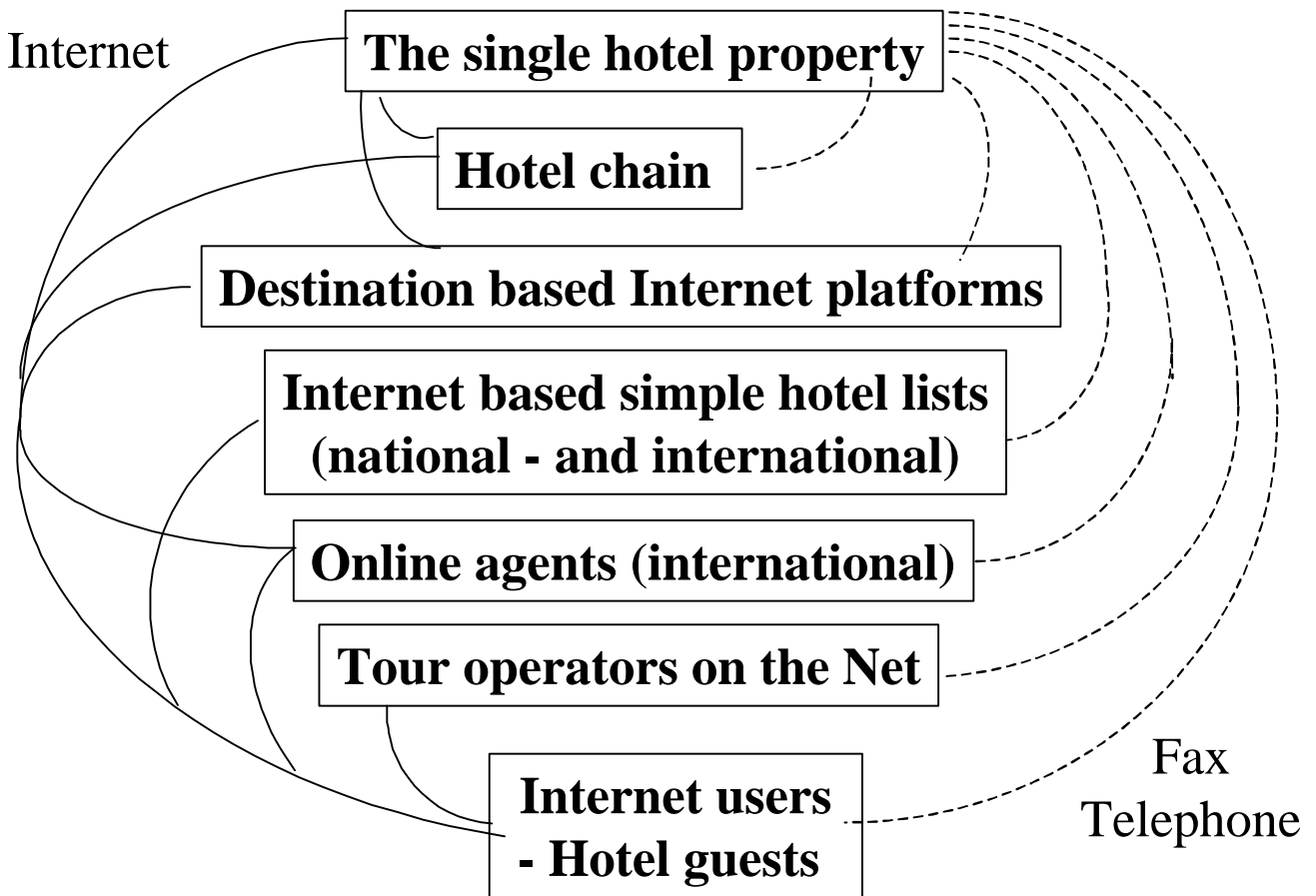
Separate methods have been applied in each of the five reports in the Internet commerce for hotels project.

- 1) Fixed-line Internet commerce for hotels starts with conceptual models. Proceeds with estimate of Internet travel sales in the European market, including hotels, based on a tracking of Internet sales of major online (hotel) marketers in the European market.
- 2) To estimate current and future WAP-usage in Europe, the market for mobile phones in general, and WAP phones specifically, had to be estimated. Next it was also necessary to access how many of those who have a WAP-enabled mobile phone actually use the WAP function.
- 3) Spending on voice and non-voice mobile telephony was estimated from the annual accounts of all W. European mobile network operators. Non-voice usage of mobile phones include SMS and WAP and the network operators' cut-off (i.e. their share of the revenue) from m-commerce.
- 4) An international – mostly European - expert survey was undertaken among early WAP-users, specifically business travellers. Their priorities etc. with respect to WAP was investigated.
- 5) A series of 18 case studies were conducted, based on personal interview in 8 different W. European countries with early adopters of WAP-sites for hotels.

## Fixed-line Internet commerce for hotels - models

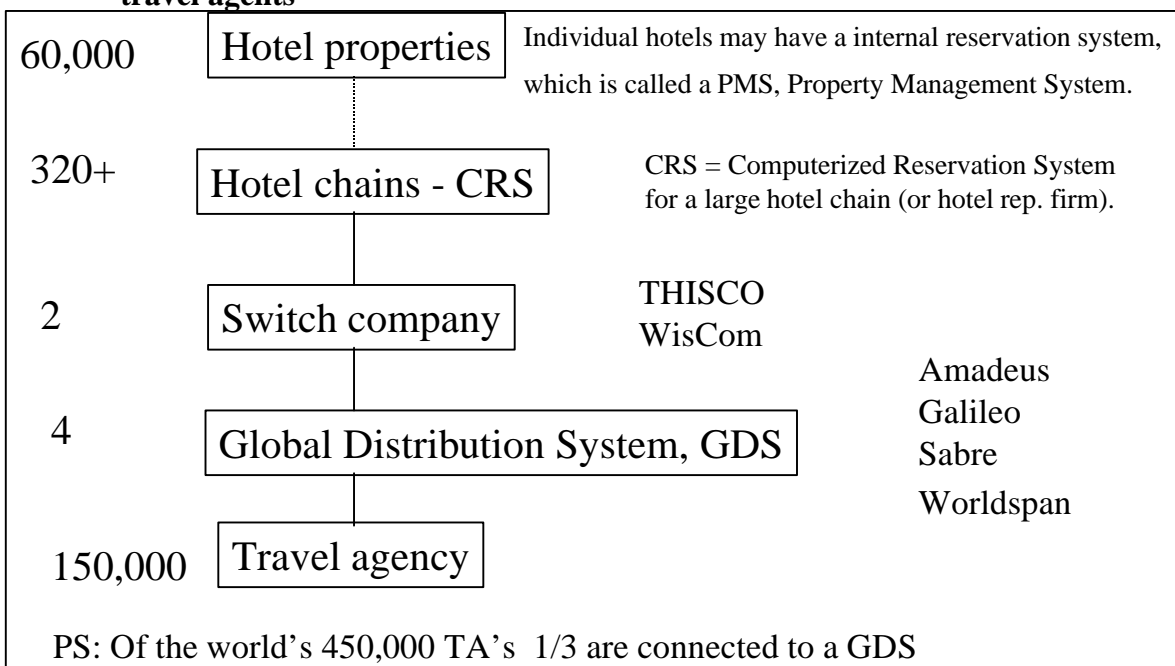
During late 1999 and during year 2000, it was repeatedly claimed by major players that there would soon be more mobile Internet users than fixed-line Internet users. So, there are at least two of the options for hoteliers - with respect to generating revenue via Internet sales. On one hand full Websites suited for access from a fixed-line Internet connection, and on the other hand specially designed mobile Internet sites, WAP sites. In this section we shall deal with fixed-line Internet. Later sections deal with mobile data services.

**Figure 1 An initial view of Internet distribution - Internet commerce for hotels**

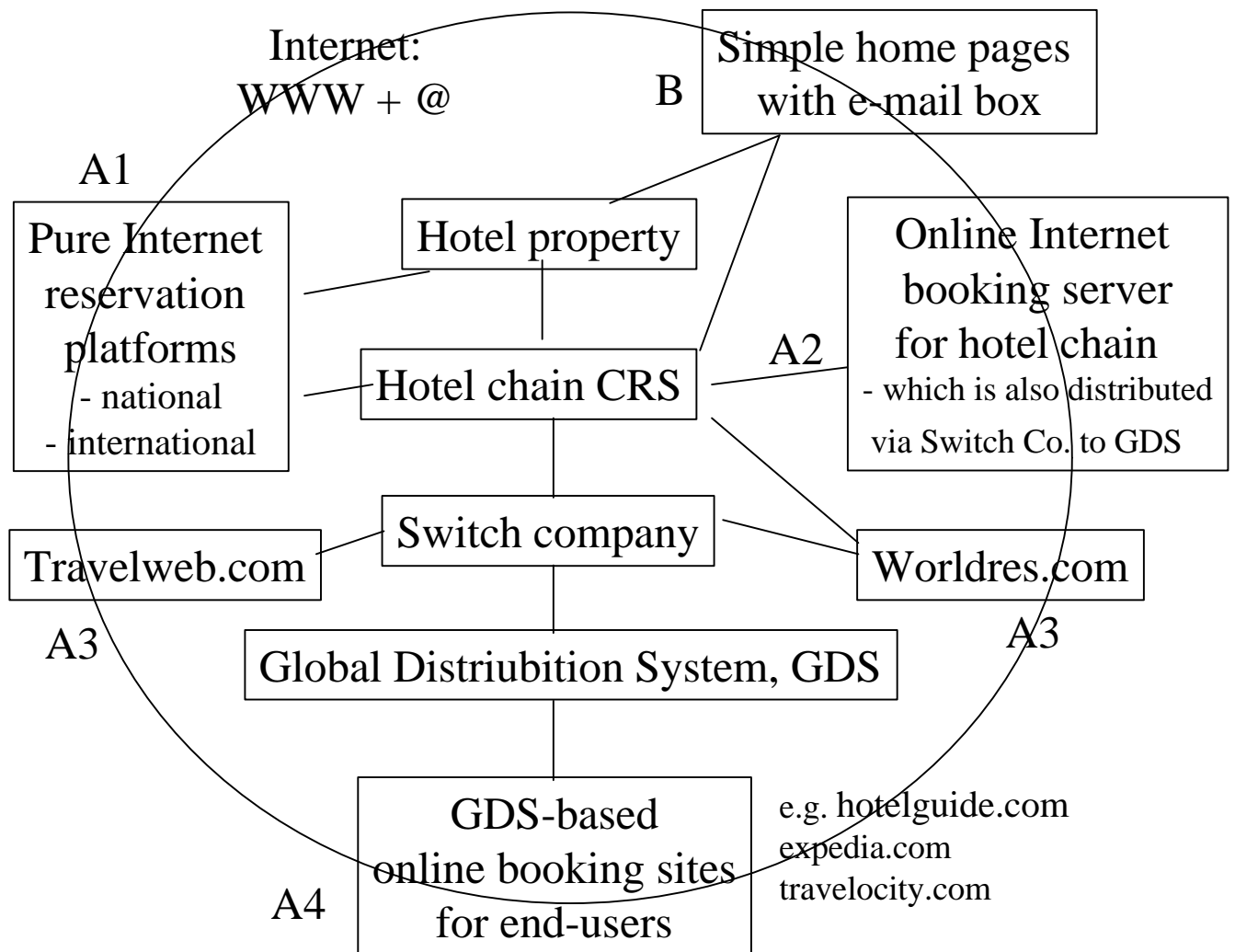


Package tours is a separate product. Although package tours do contain a hotel element, hotels as part of package tours is excluded from what is being referred to as hotels in the following.

**Figure 2 The traditional electronic hotel distribution chain - before Internet: Via GDS' to travel agents**



**Figure 3 Choices/options for hoteliers - with respect to generating revenue via Internet sales**



A tentative ranking of the different options is the following:

A. Internet booking - with immediate confirmation

- 1) A1a. Via national pure online hotel booking Web-sites
  - without any other form a electronic distribution, i.e. by-passing hotel chains, switch companies and GDS', e.g. www.tourisonline.dk (a new national, destination based platform),
- 2) A2. Via hotel chains' CRS to WWW
  - by-passing the Switch firms and the GDS' with respect to Internet distribution, but with simultaneous electronic distribution via Switch-co. to all GDS': e.g. Scandic (now Hilton), Radisson SAS, Choice, SRS-Worldhotels.com etc.
- 3) A3. Via switch company based Web-sites
  - by-passing GDS', e.g. Travelweb.com (hereunder branded sites like BW) or placestostay.com (from worldres.com).

- 4) A1b. Via foreign / international pure online hotel booking Web-sites
  - without any other form a electronic distribution,
  - e.g. by-passing hotel chains, switch companies and GDS', e.g. www.hrs.de
- 5) A4. Via GDS based Web-sites
  - (GDS=Global Distribution Systems, i.e. Amadeus, Galileo, Sabre, Worldspan)
  - via the CRS of a large hotel chain or large hotel rep. firm's CRS
  - e.g. Web-sites like Expedia (via Worldspan) or Travelocity (via Sabre),
  - and hotelguide.com (via Amadeus).

B. Internet booking on request-basis (by e-mail) without instant confirmation.

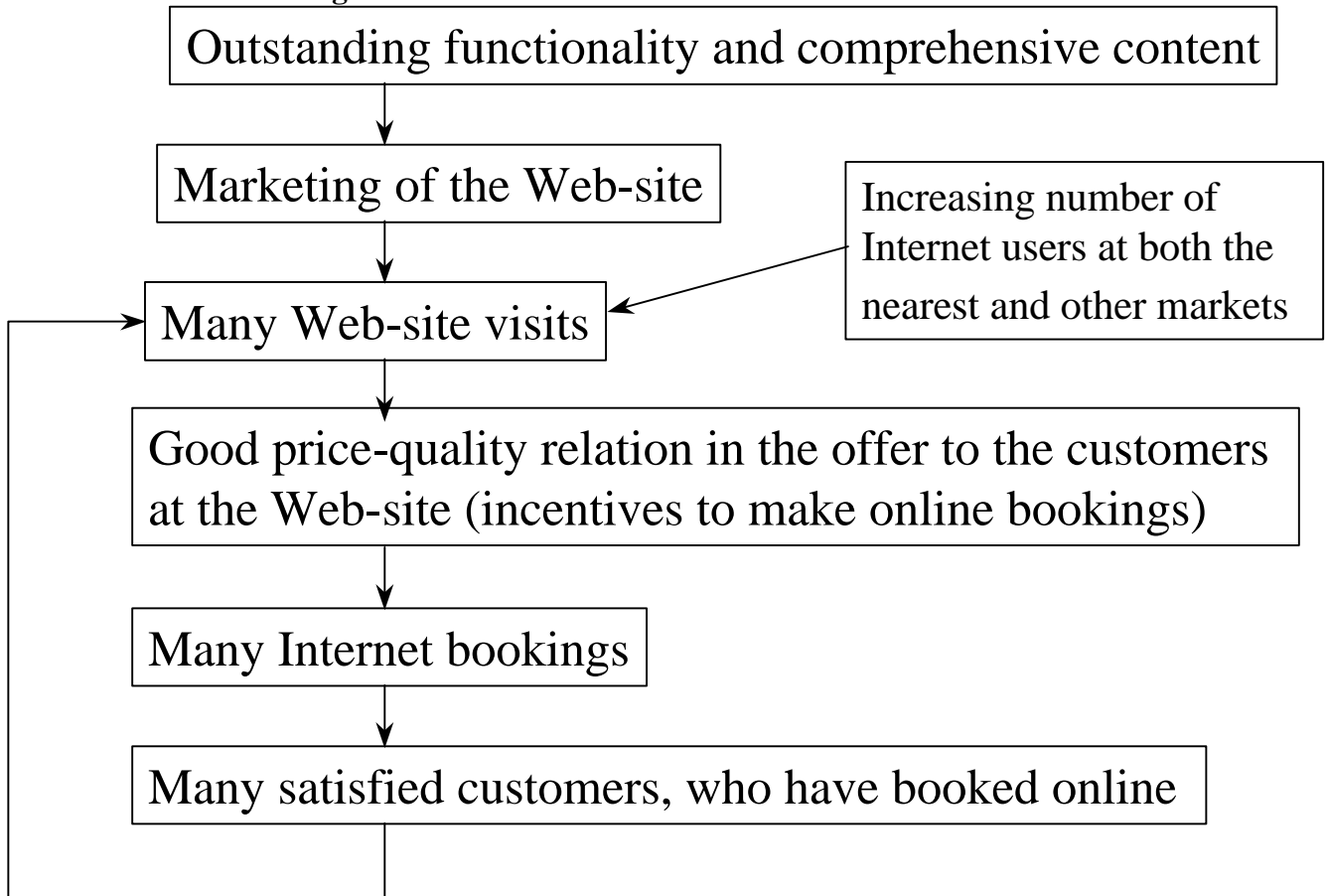
B1. On special form on the Web-site (transmitted via e-mail)

B2. Via e-mail, unstructured

About B - Internet booking on a request basis - there is no more to say than all hoteliers should have an e-mail box, of course. Today that is at least as obvious as hotels should have a fax-machine.

A pure Internet booking platform for a great number of hotels (ideally all hotels in a country) is highly desirable. It bypasses all links in the traditional electronic distribution channel for hotels and the associated costs and goes directly to the end users. One example of this is the online destination marketing platform TIScover of Austria, the most successful online hotel marketer in Europe in terms of hotel revenue generated online. Several other European countries have also established national online hotel booking platforms, but so far with less success. Even though major hotel chains distribute their inventory through GDS' and have done so for years, in order to save costs it is interesting for chains to establish online booking sites of their own. Switch companies, the technical link between hotel CRS' and GDS', can by-pass GDS' by making the inventory of their multiple associated hotel chains available for online bookings. Finally GDS' which have traditionally served the travel agency community only, can power any Web-site with an online hotel booking facility. Thereby the GDS' get a new group of customers, to substitute some of their travel agency business, which is threatened by the advent of the Internet as a booking platform for consumers.

**Figure 4** Functionality, marketing and bookings via Web-sites - The virtuous circle of Internet bookings

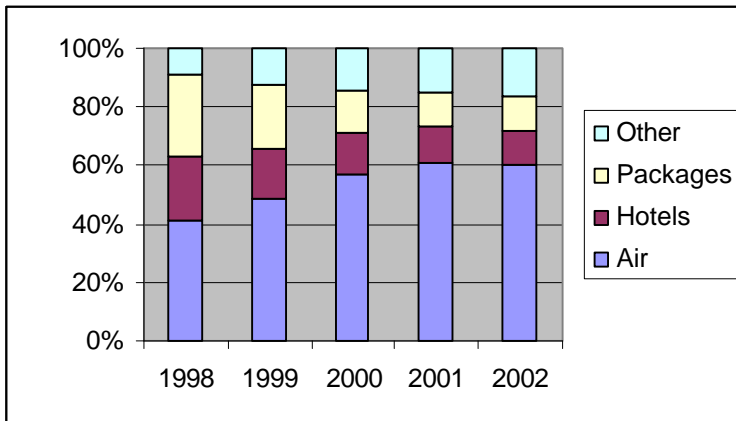


The virtuous circle of Internet bookings (for hotels and other travel and tourism services) starts with outstanding functionality and comprehensive content. Then comes marketing of the Web-site, off-line and online. This should lead to many visits to the booking site, fuelled also by an increasing number of Internet users in general. A good price-quality relation in the offer to the customers at the Web-site should lead to many online bookings. Visitors should be given compelling reasons - beyond mere convenience - to make the booking online. A cost saving for the online marketer may be shared with the online customers: This would be a win-win situation. If customers get a good deal online, they will be happy and come back to the Web-site next time they need a similar type of service.

## Fixed-line Internet commerce for hotels - numbers

Internet bookings of hotels account for about 12% of the total Western European online travel market, both in 2001 and 2002, whereas air tickets account for about 60%.

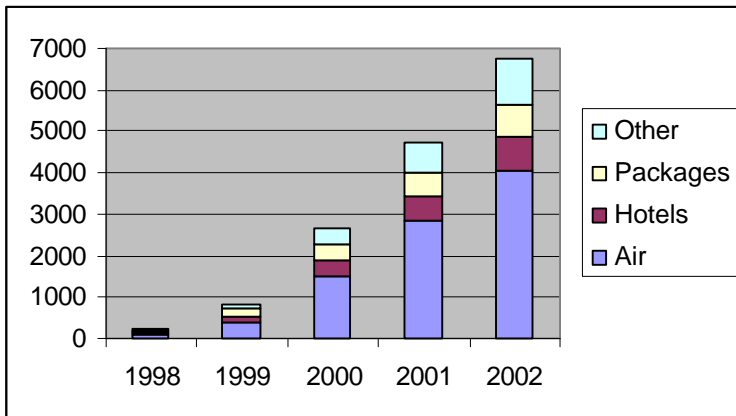
**Figure 5 W. European travel and tourism services by type 1998-2002, in percent**



Source: Own estimates, cf. <http://www.crt.dk/uk/staff/chm/trends.htm>.

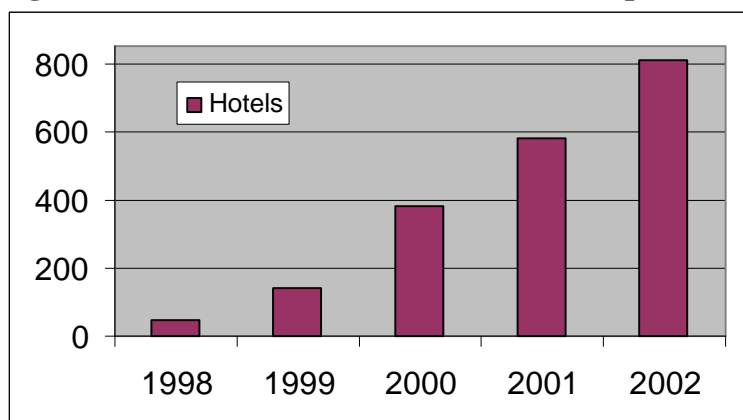
Total online travel and tourism market will be about 6.8 billion Euros in 2002.  
 Online hotel bookings in Western Europe will exceed 800 million Euros in 2002.

**Figure 6 W. European travel and tourism services by type 1998-2002, in million Euros**



Source: Own estimates, cf. <http://www.crt.dk/uk/staff/chm/trends.htm>.

**Figure 7 Online hotel revenue in the W. European market, 1998-2002, in million Euros**



Source: Own estimates, cf. <http://www.crt.dk/uk/staff/chm/trends.htm>.

The total W. European hotel accommodation market is worth more than 50 billion Euros. Therefore online hotel booking will account for under 2% of all hotel accommodation sales in 2002. However, on top of this comes hotel bookings by e-mail on a request basis.

In 2001 the destination marketing platform TIScover.com of Austria was very clearly the number one online hotel marketer in the European market, with about 204 million Euros worth of online bookings, of which about 190 million Euro worth of hotel bookings by Europeans. TIScover thus accounted for as much as 33% of the 583 million Euros online hotel market in 2001.

For comparison, in the US, the number one online hotel marketer, Hotels.com, generated 509 million \$ in gross bookings in 2001 (568 million Euros), i.e. about 20% of a US online hotel market worth 1972 million \$ (2.2 bn. Euros) according to PhoCusWright (2001).<sup>1</sup> For all travel and tourism services under one the ratio of US:W.European online revenue was about 5.2 : 1 in 2001 (Marcussen, 2002b). For hotels only the ratio of US:W.European online is a little better, namely 3.9 : 1 following the PhoCusWright figure for the US market, and Marcussen (2001b, updated July 2002) for the W. European market. Europe does thus not appear to be as far behind the US in online hotel bookings as for travel and tourism services in general.<sup>2</sup>

There are two main categories of online hotel bookings:

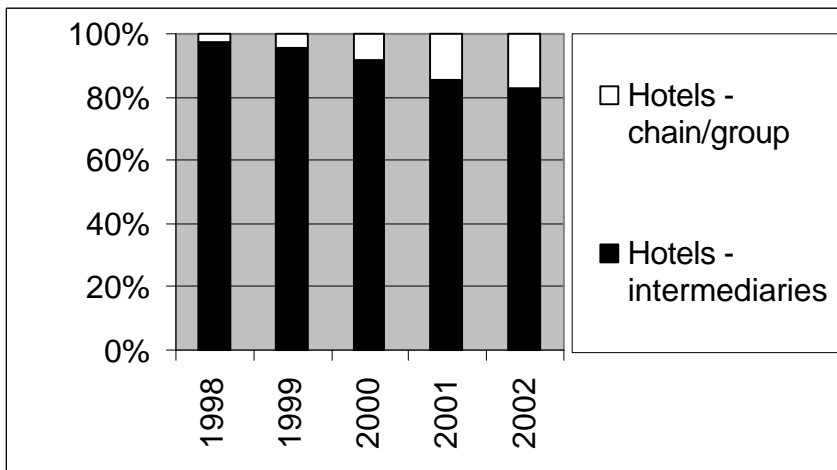
1. Via the Web-sites of hotel chains
2. Other online intermediaries, including destination marketing organisations.

Hotel chains were initially relatively insignificant compared to other hotel intermediaries with respect to generating online hotel revenue. In 2002 chains accounted for 17% of online hotel revenue in the W. European market, and may reach 20% by 2004. Major hotel chain Web-sites in the European market include Accor.com, France, and Minotel, Switzerland.

<sup>1</sup> The average exchange rate was 1.1163 Euro per US\$ in 2001.

<sup>2</sup> Unfortunately another source makes a much higher estimated for the US online hotel market, and therefore it is unclear whether or not European hotels are doing relatively than other European travel and tourism service online: CSFB (2002) estimate US online lodging revenue to 4.1 billion US \$ in 2001.

**Figure 8 Hotel chains account for an increasing share of W. European online hotel revenue**

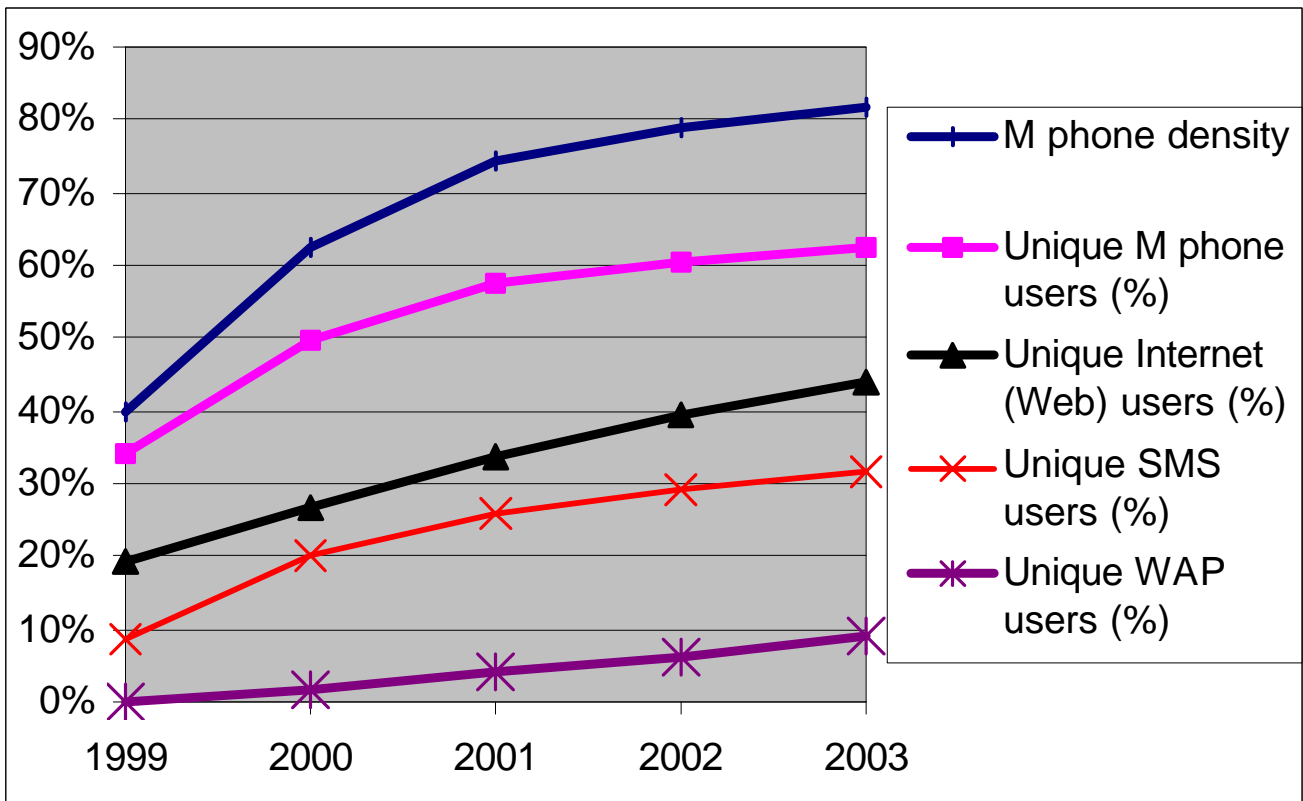


Source: Own estimates, cf. <http://www.crt.dk/uk/staff/chm/trends.htm>.

## Mobile phone – SMS - WAP – and Internet users

While mobile Internet was predicted to overtake fixed-line Internet usage by the end of 2003, the below graph shows that this will be a far cry from becoming true, even in Western Europe, at one stage the land of milk and honey with respect to mobile Internet (next after Japan and possibly S. Korea).

**Figure 9 Mobile phones, mobile phone users, Internet users, SMS users and WAP users in % of the W. European population, end of 1999 to end of 2003.**

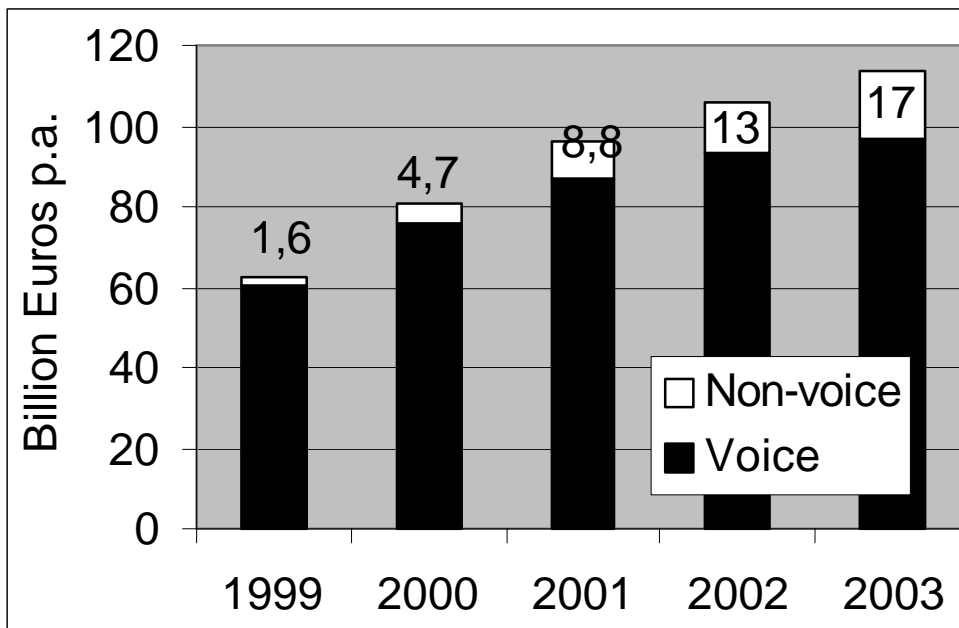


Even if a longer time perspective is taken, say to 2006, the number of WAP-users will not catch up with the number of Web-users in Western Europe. By 2006 WAP will still hover down at 11% or slightly higher, whereas Internet penetration will have reached 53% or so.

## Mobile data and m-commerce in Europe.

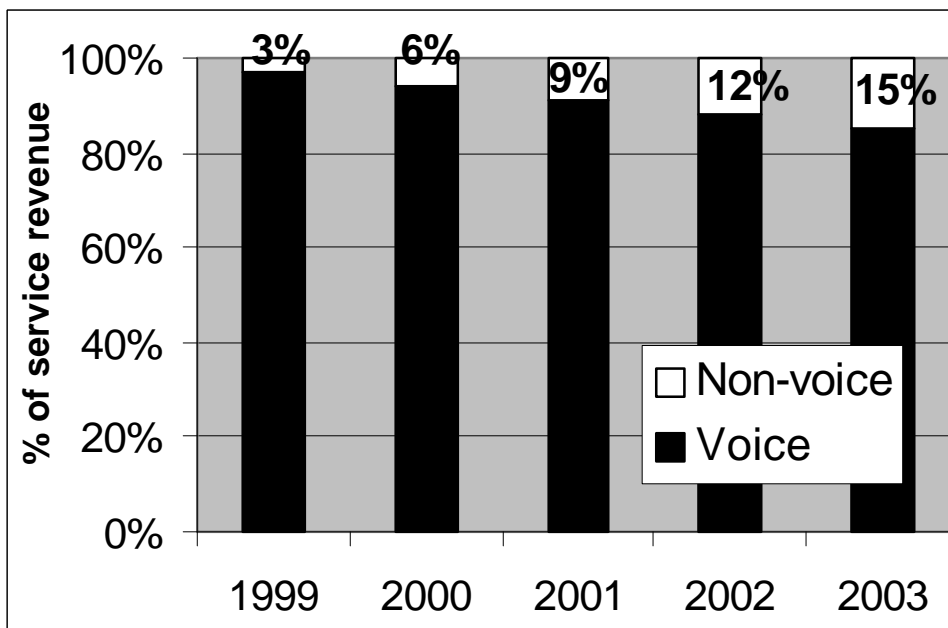
Spending on mobile telephony exceeds 100 billion Euros per year in Western Europe.

**Figure 10 W. European mobile network operators' service revenue – in billion Euros p.a. 1999 to 2003**



Source: Own calculations and estimates, based on accounting data until and including 2001.

**Figure 11 Voice and non-voice revenue in Europe (%)**

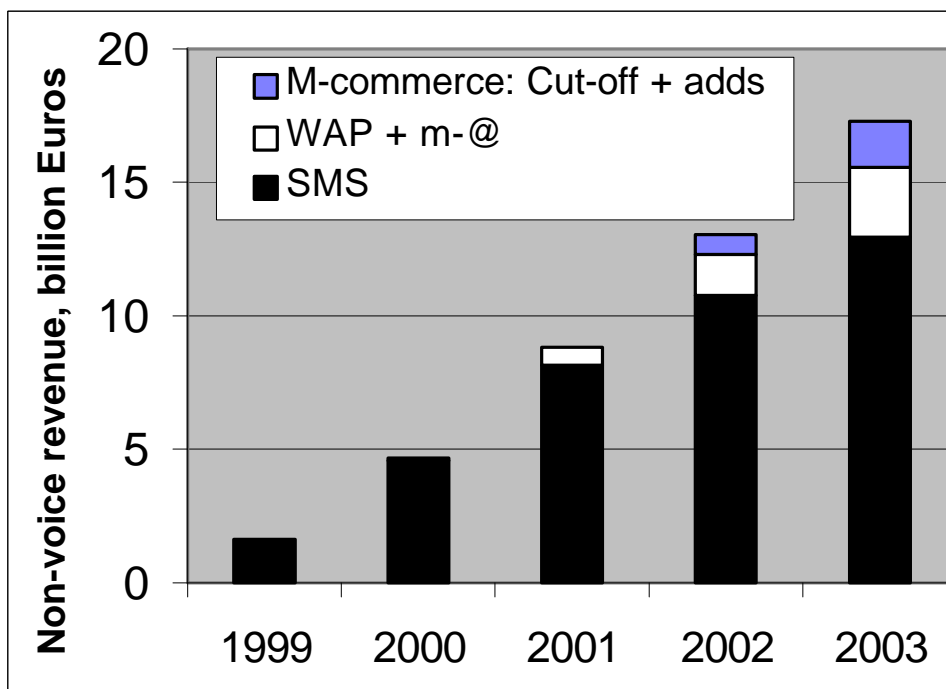


Source: Own calculations and estimates, based on accounting data until and including 2001.

An increasing share of people's spending on mobile telephony is for mobile data – or non-voice usage in 2002 it will be 12%, and in 2003 probably 15%.

SMS accounts for most of the non-voice revenue of the mobile network operators in W. Europe. Still, in 2003 it will probably be 74% SMS (including some of the more advanced messages called MMS), 16% WAP and 10% m-commerce, where m-commerce is the mobile network operators cut-off from the services sold by the content providers via WAP.

**Figure 12 W. European mobile network operators' non-voice revenue – in billion Euros 1999 to 2003**



Source: Own calculations and estimates, based on accounting data until and including 2001.

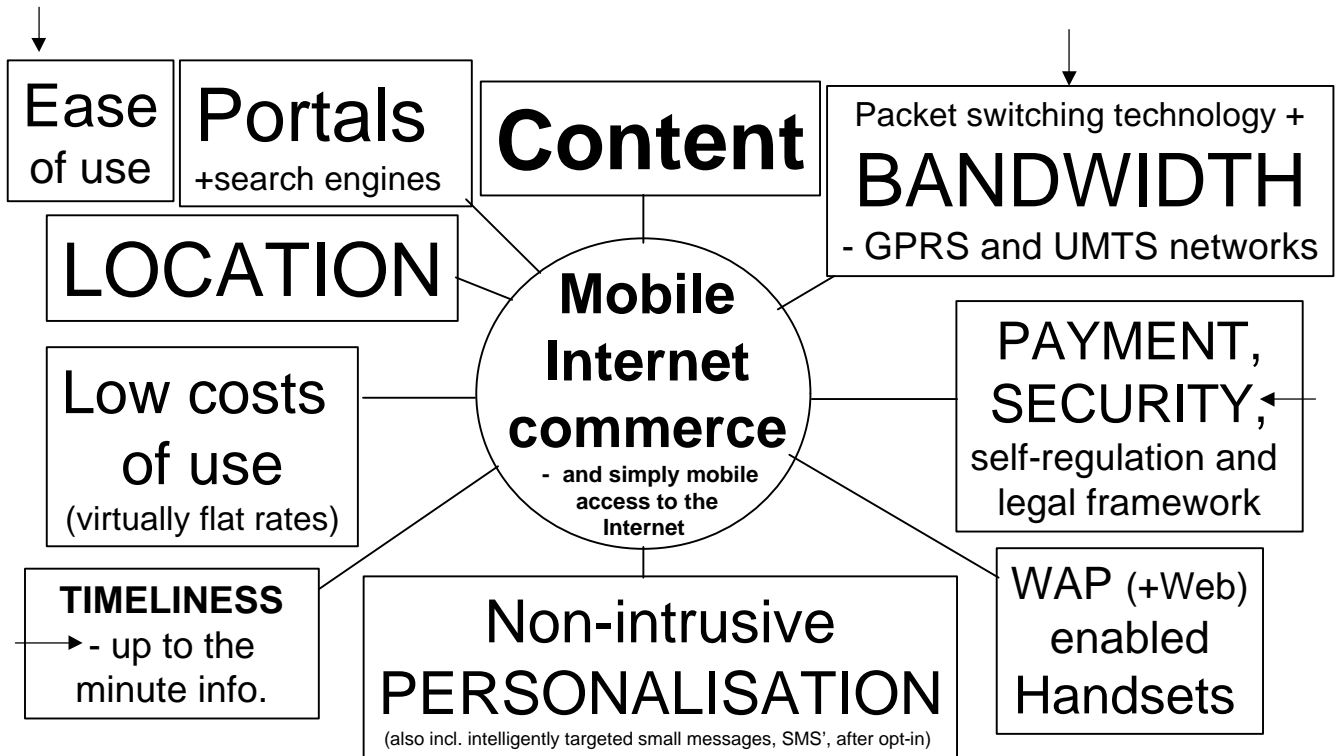
## **Beyond mobile: Internet access via WLANs at hotels and other public hotspots**

In Europe mobile Internet usage is largely synonymous with WAP usage from a mobile phone. Wireless Internet access on the other hand may also comprise full Internet/Web access from a laptop or handheld computer via a Wireless Local Area Network. WLANs are becoming more and more widespread in offices. Also there is an increasing number of WLANs in public areas, where travellers and others can lock on to the Internet, wirelessly and with high transmission rates. In the Nordic countries alone there were about 325 public WLANs by the middle of 2001 (Marcussen, 2001c). This had more than doubled to 700 by the middle of 2002, which should correspond to 20% of the public WLAN hotspots in the USA, a leading country in this field (IDC, 2002). The worldwide WLAN growth rate should be 70% in 2002 (Gartner, 2002). Hotels play a key role as public hot-spots, i.e. places where there is public, albeit not necessarily free, access to WLANs. In 2001 hotels accounted of 58% of the public WLAN hotspots in the Nordic countries (Marcussen, 2001c). In future travellers may be able to be Always Best Connected, i.e. they may be able to seamlessly access the Internet via WLANs if available, if not then via 3G (UMTS) mobile Internet access or current types of mobile networks if 3G is not available. Few content providers can be bothered to develop and maintain different version of their content for different access devices. Most will offer just a normal Web-site. With 3G, WLANs and an increasing installed base of laptops (and handheld computers) with communication modules (or GPRS or 3G mobile phones as modems) and WLAN cards (either retrofitted or built-in), there may be light by the end of the tunnel for business travellers and content providers alike, including hotel guests and hoteliers.

## WAP for business travellers – An expert survey.

A literature study was conducted to identify attributes which apparently are important basic conditions for WAP usage.

Figure 13 10 key elements of mobile Internet commerce



Source: Own development, based on literature study.

Subsequently a survey was conducted which among other things showed which of these basic conditions for WAP were considered to be more or less important.

The five most important basic conditions of m-commerce are:

- |                                           |     |
|-------------------------------------------|-----|
| 1. Data protection.                       | 9.1 |
| 2. That information is up-to-the-minute.  | 8.9 |
| 3. Connection can be established swiftly. | 8.9 |
| 4. That WAP-sites can be loaded quickly.  | 8.8 |
| 5. That WAP-sites are easy to navigate.   | 8.8 |

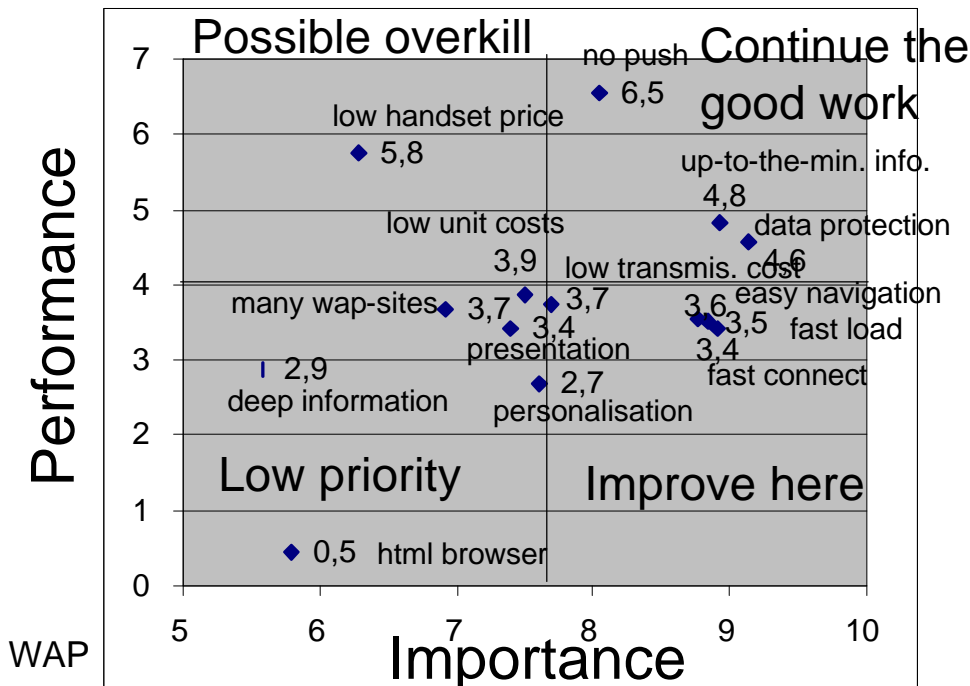
Note: Importance on scale from 0-10 (n=80)

**Figure 14 Importance and performance analysis: The text-book guidelines after plotting attributes according to their importance and performance**

Good performance	Possible overkill	Continue the good work
Poor performance	Low priority	Improve here
	Not very important	Very important

**Figure 15 Importance and performance portfolio 1: The basic conditions for WAP**

### Importance and performance – now



The three attributes which clearly fall in the ‘improve’ category are:

- Easy navigation
- Fast loading time
- Fast connection time

Next respondents were asked about what they:

1. Have already done on Web, i.e. fixed-line Internet.
2. What they would like to be able to do on WAP.
3. What they think is currently possible to do on WAP to suit their needs. And finally.
4. What they have already done on WAP.

**Table 1 Web and WAP usage – Overall ranking by "like to do on WAP"**

(n=80)	A Done so on Web	B Like to do on WAP	C Possible on WAP	D Done so on WAP
1 Flight delays	54%	99%	33%	18%
2 Traffic situation	46%	94%	30%	24%
3 Weather / road	80%	94%	42%	25%
4 Hotel phone nos.	85%	94%	43%	31%
5 Flight schedules	88%	93%	37%	29%
6 News headlines	98%	91%	60%	55%
7 Check e-mail box	91%	91%	46%	44%
8 e-mail corres.	94%	91%	51%	48%
9 What's on tonight	73%	90%	36%	28%
10 Restautant info.	78%	90%	27%	25%
11 Train schedules	75%	89%	32%	23%
12 Driving directions	65%	89%	18%	21%
13 Room availability	69%	88%	22%	10%
14 Exchange rates	93%	88%	43%	28%
15 Change flight	29%	85%	8%	5%
16 Book hotel room	65%	85%	17%	10%
17 Book flight	63%	80%	12%	5%
18 Hotel amenities	76%	75%	27%	18%
19 Share prices	76%	75%	50%	34%
20 Train reservation	31%	69%	14%	1%
21 Bonus points	54%	68%	17%	6%
22 Buy/sell shares	43%	49%	22%	4%
Average	69%	85%	31%	22%

If a high percentage would like to do something on WAP, this can be interpreted as high importance of WAP for that attribute. If a high percentage thinks it is currently possible to do something on WAP, this can be interpreted as good performance of WAP for that attribute. Following this logic a second importance and performance matrix can be presented, given the percentages in columns B and C in table 1.

**Figure 16 Importance and performance analysis for WAP 2: Classifying the travel related WAP attributes**

<b>Good performance</b>	<b>Possible overkill:</b> 18 Share prices	<b>Continue the good work:</b> 1 Flight delays; 3 Weather / road; 4 Hotel phone nos.; 5 e-mail corres.; 6 Flight schedules; 7 Check e-mail box; 8 News headlines; 10 What's on tonight; 14 Exchange rates
	<b>Low priority:</b> 17 Book flight; 19 Hotel amenities; 20 Train reservation; 21 Checking bonus points; 22 Buy/sell shares	<b>Improve here:</b> 2 Traffic situation; 9 Restautant info.; 11 Train schedules; 12 Driving directions; 13 Room availability; 15 Change flight; 16 Book hotel room
<b>Poor performance</b>	<b>Not very important</b>	<b>Very important</b>

Two or three of the hotel related attributes fall in the ‘improve here’ category, namely *room availability*, *hotel booking* (and *restaurant info.* if that is considered a hotel related) - on WAP. A fourth hotel related attribute, *hotel phone numbers* (i.e. basis contact details) is important but are already on WAP. A fifth hotel related attribute, *information about hotel amenities* is generally not on hotel WAP-sites at the moment, but since this is not thought to be very important information, this is not a problem.

## Early adopters of WAP for hotels in Europe

More than a dozen hotel related players in the European market had developed WAP-sites by early 2001. Some hold that WAP failed because of lack of content. However, a series of case studies showed that many hotel players did what was possible to do with the technology on 2G, second generation mobile networks and the corresponding initial WAP-enabled mobile phones. The case studies were based on personal interviews and all followed the same format: 1) The firm, 2) its Web-site, 3) its WAP-site.

There is no particular ranking of WAP-site in the below table. Only a tentative grouping, starting with two niche (WAP-only) players. Continuing with two hotel chains, only one of which with live WAP-site still. Then 10 hotel guides with both Web and WAP versions, only 6 of which have still got live WAP-sites. Finally three destination marketing organisations, two of which with live WAP-sites, and one general online last minute site with hotel accommodation as only one of the services in its portfolio.

**Table 2 Some early adopters of WAP for hotel in Europe**

No.	Name	Country	Town	Web-site:	WAP-site:	Live?
3	City-guides.ch	Switzerland	Basel	www.city-guides.ch/	www.city-guides.ch/index_e.wml	Yes
14	CitiWiz.com	France	Paris	www.citiwiz.com/	wap.citiwiz.com/	Yes
8	Thistle Hotels	UK	London	www.thistlehotels.co.uk/	wap.thistlehotels.com/	Yes
1	Scandic Hotels	Sweden	Stockholm	www.scandic.se/	Was for frequent guests only	No
5	hotelguide.com	Switzerland	Luzern	www.hotelguide.com/	wap.hotelguide.com/	Yes
6	Varta Hotel Guide	Germany	Karlsruhe	www.varta-guide.de	wap.varta-guide.de/	Yes
9	HRS	Germany	Cologne	www.hrs.de/	wap.hrs.de/	Yes
12	Check-inn.com	Germany	Aalen	www.check-inn.com/	wap.check-inn.com/	Yes
17	Bedhunter.de	Germany	Berlin	www.bedhunter.de/	wap.bedhunter.de/	Yes
18	HOTELdirect.de	Germany	Bremen	www.hoteldirect.de/	wap.hoteldirect.de/	Yes
11	LeisureHunt	UK	Ispswich	www.leisurehunt.co.uk/	wap.leisurehunt.com/	No
13	Venere	Italy	Rome	www.venere.it/	wap.venere.it/	No
7	Book online, ITS	Italy	Padua	www.bookonline.it/	www.itsitaly.com/wap/links/index.wml	No
4	2PL	France	Nice	www.2pl.com/	wap.2pl.com/	No
2	TIScover	Austria	Innsbruck	www.TIScover.at/	wap.TIScover.at/	Yes
15	Wonderful Copenhagen	Denmark	Copenhagen	www.woco.dk/	www.woco.dk/wap/	Yes
16	Danish Tourist Board	Denmark	Copenhagen	www.visitdenmark.com/	Was at: wap.visitdenmark.com/	No
10	Lastminute.com	UK	London	www.lastminute.com/	wap.lastminute.com/	Yes

Note: Date of visit to WAP-sites to test if each of them were live or not: 1 Oct. 2002.

For some of the players the general impression was, that they developed the WAP-site in order to show that they were capable of handling the WAP technology also, and that they would be at the forefront in almost any technology which might come around. Examples include TIScover and Lastminute.com. In other instances the WAP-sites were developed because the developers truly believed in the potential of WAP. However, the actual usage of the WAP-sites were quite modest in most cases. The ratio of WAP-site visits to Web-site visits were no better than 1:20 in favour of fixed-line, and in some cases less than 1:1000. - This corresponds well with findings in other travel services train travel, where the ratio between WAP and Web usage is typically 1:200 for time-table enquiries. - In a couple of instances out of 18, the WAP-site was developed and run by a dedicated WAP-player, i.e. someone whose main focus is WAP. Each of these players (CityWiz and Cityguides.ch) have a Web-site for just cosmetic reasons, and for providing background information about their respective companies.

## Discussion: Fixed-line vs. mobile.

By the end of this year – 2002 – there will be more than six times as many Web users as WAP users in W. Europe. Furthermore WAP users are less frequent users than Web-users. There are thus typically about 200 times as many user sessions on Web-sites as on the corresponding WAP-sites. And this is even only for those relatively few players, who *do* have a WAP site, in addition to a Web-site (which almost all travel and tourism marketers players have today). Finally, whereas booking of hotel rooms is over the Internet is approaching 2% of all hotel room nights in Western Europe, there is hardly any booking of hotel rooms on WAP in Western Europe today.

### Some WAP:Web ratios

WAP:Web users:	1:6
WAP:Web sessions	1:200 – for those who have a WAP-site at all
WAP:Web bookings	1:many thousands (cannot be measured)

A few European online hotel marketers have implemented a hotel booking function on WAP. But they get very few bookings on WAP. A more user friendly approach to hotel bookings on WAP-enabled phones is the go as far as to provide either the phone number of the individual hotel on WAP or the phone number of the call centre, and then to complete the hotel booking by the voice function of the mobile phone. If individual hotels and associated phone numbers are listed on WAP it may be an advantage for the travellers to be presented with only those hotels which have available rooms in the chosen city in the appropriate category, for example three star hotels in Innsbruck with available rooms. Several players offer this function (TIScover, hotelguide.com, HRS). But in general WAP for hotels currently goes as far as to provide contact information about hotels on WAP.

## **Conclusion**

A pure Internet booking platform for a great number of hotels (ideally all hotels in a country) is highly desirable. It bypasses all links in the traditional electronic distribution channel for hotels and the associated costs and goes directly to the end users. There may be no national online hotel booking platform, but then there are several additional options for hoteliers to generate online bookings, including hotel chain web-sites or international online hotel intermediaries. Making use of one online option does not necessarily exclude the parallel usage of other online options. For a hotel booking site to be successful it has to have great functionality and content, has to market the site online and off-line and got to give the Web-site visitors incentives to book online.

Hotel room nights (excluding hotels in package tours) account for about 12% on online travel in Europe, whereas air tickets account for 60%, both in 2001 and 2002. Online hotel bookings looks set to exceed 800 million Euros in 2002, but online hotel bookings represent only a couple of percent of the total European hotel accommodation market in 2002. Hotel chains have so far been dwarfed by other online intermediaries (including online destination marketing organisations) with respect to generating online hotel bookings. Hotel chains have increased their share of online hotel booking in the European market to 17% in 2002, though, and looks set to increase their share of online hotel bookings further.

WAP was heralded as the next big thing - some claimed there would be more mobile Internet users than fixed-line Internet users by the end of 2003 or even by the end of 2002 when the hype peaked - but compared to these hyped projections it became a flop. It now seems that by the end of 2003 no more than 9% of the European population will be WAP users (even including infrequent users) whereas 44% will be Web-users. Mobile Internet in the meaning accessing WAP-sites from mobile phones is of only very marginal practical importance for hoteliers. There is likely to be 200 times more visitors to a Web-site than to a corresponding WAP-site, if such has been established at all. And m-commerce (mobile commerce) for hotels in the narrow sense bookings on WAP is possible at a few WAP-sites, but hardly any bookings are made on WAP. Some online hotel marketers have got a WAP-site, which enable them to demonstrate that they are at the forefront and capable of handling any technology of potential interest to end users. Also competition among online hotel intermediaries is fierce. Some of them may have established WAP-sites, typically during the first half of year 2000 when WAP looked more promising than it does today, in order not to run the risk of being at a competitive disadvantage by not offering a certain service, even if it is a marginal one.

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