

Response Rates in Internet Surveys –

Experiences from an Online Expert Survey into WAP for business travellers

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Overview

1. Introduction – background info.
2. Determinants of response rates
3. Review of response rates - by three main drivers of response
4. Additional issues to consider
5. Some actual results and/or Q&A

Internet surveys

1. E-mail surveys

1a. Embedded

1b. Attachment

2. Web surveys

2a. Web form - single page (scrollable)

2b. Web form - multi-page (interactive)

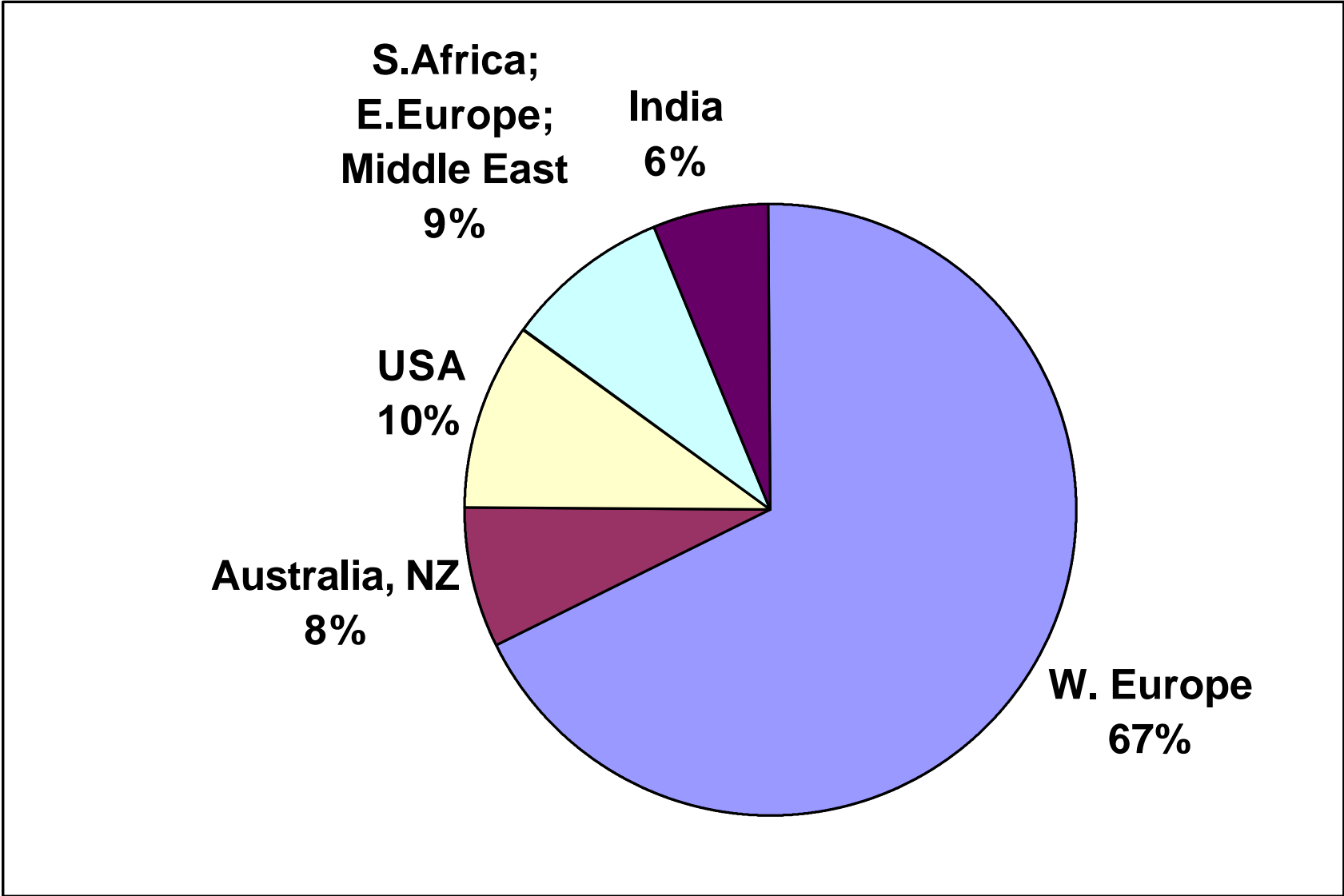
Type 1b and 2a were used

Survey period:

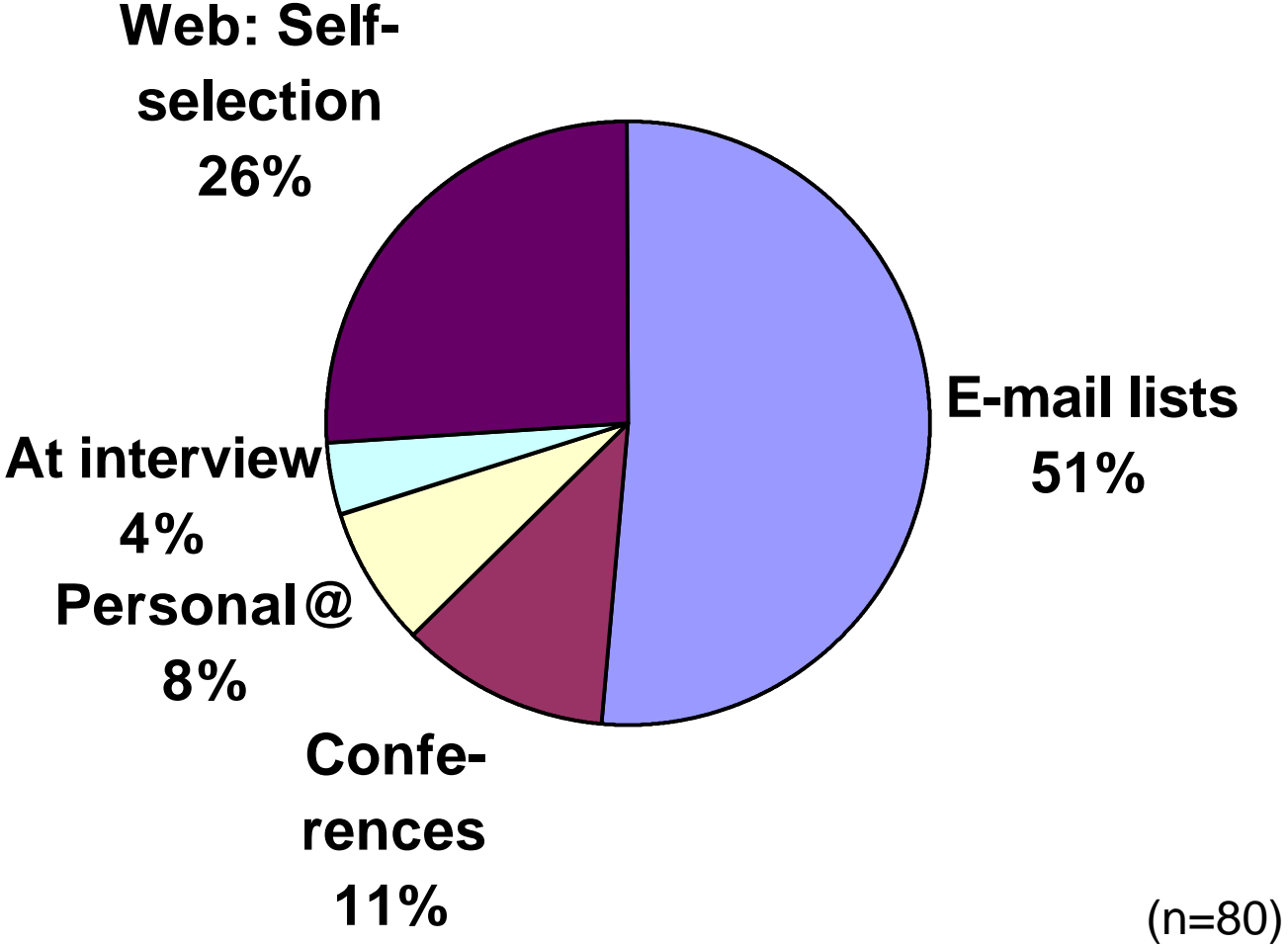
Middle of Oct. 2000 –
middle of February, 2001.

Number of respondents
(experts): 80

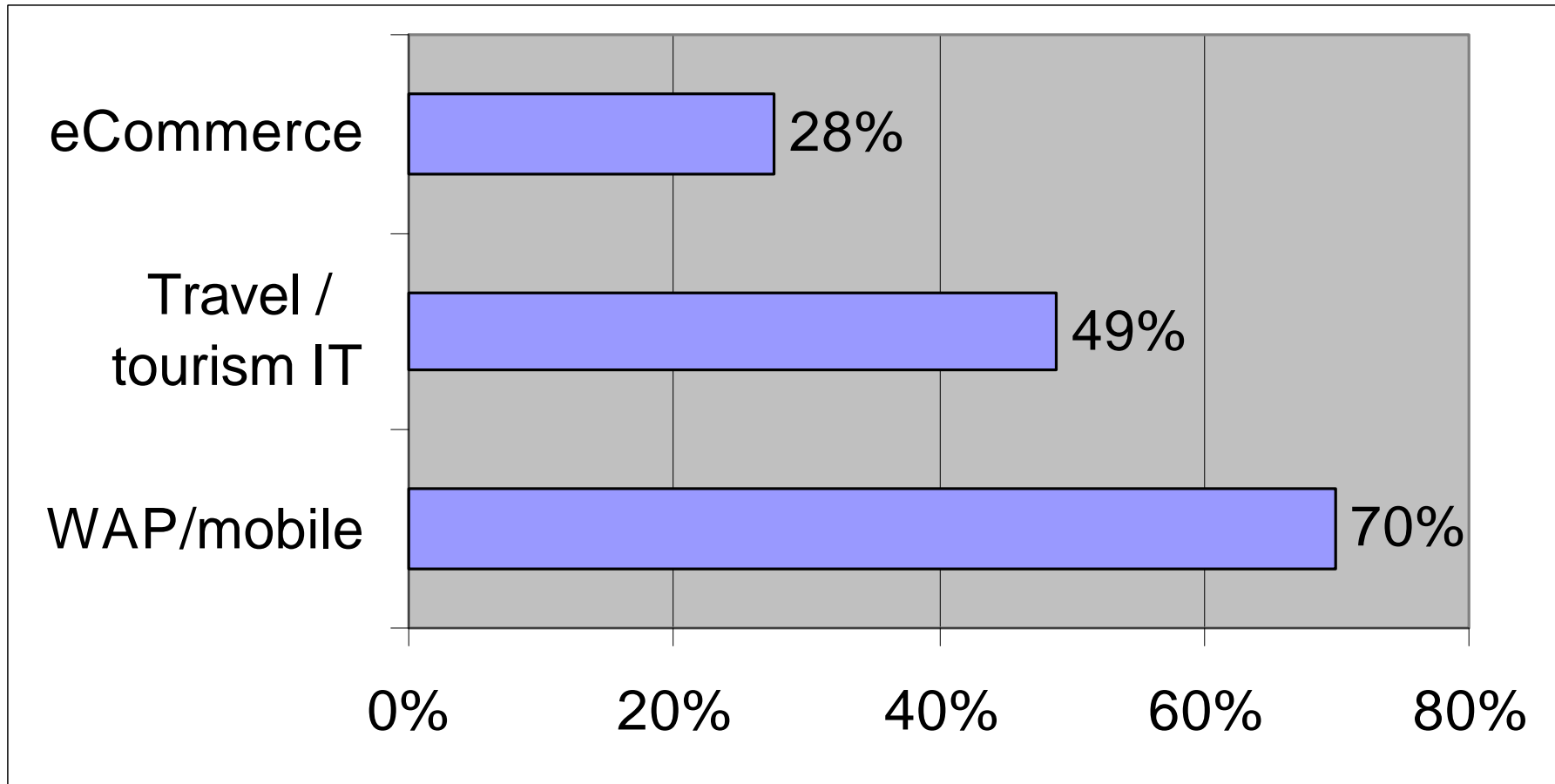
Break-down of respondents by current country of residence (n=80)



How experts *found out* about the WAP survey

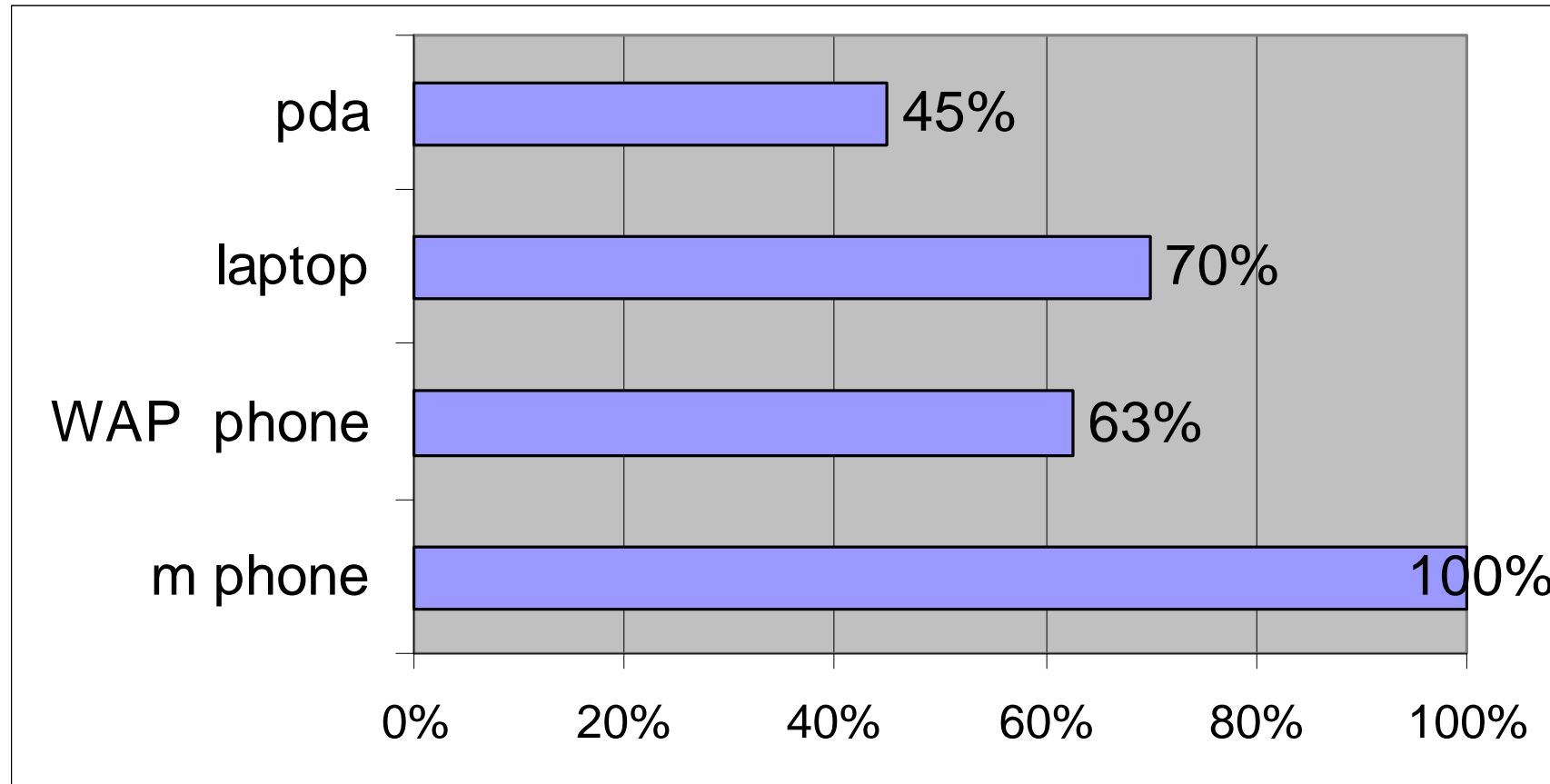


Area of expertise of respondents (n=80)



Note: All respondents are experts in at least one of the fields travel/tourism IT or WAP/wireless. – 61% had expertise in one field, 31% in two fields, and 8% in all three fields for particular relevance for the topic.

Hardware carried on business trips by the respondents in WAP survey (n=80)



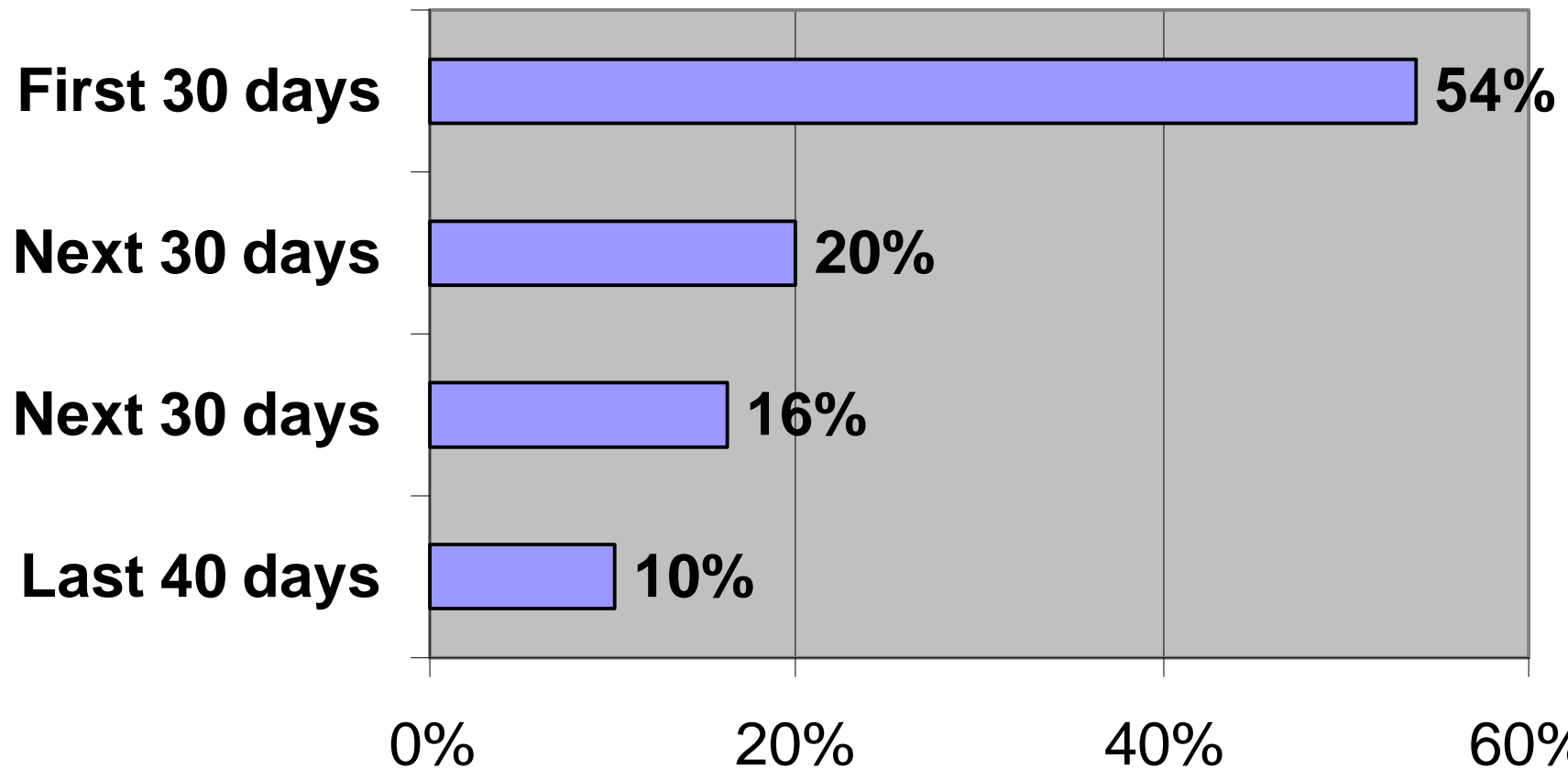
Other background variables:

Percent males	84%
Average age	35
Travel nights p.a.	34
Current m phone not first	79%
Ave. life for last m phone	15 months
Had current m phone for	7.8 months
At least one m phone	100%
Private pre-paid m phone	0.13 in ave.
Private post-paid m phone	0.43 in ave.
Company financed phone	<u>0.74</u> in ave.
Average no. of m-phones	<u>1.29</u> each
At least one company m phone	67%

Method of getting and returning the WAP questionnaire (n=80)

Returned via	Got via WWW form	Got via e-mail	Got via dumb form	Got in person	(%) Total
WWW form	44%				44%
e-mail		41%			41%
Fax		10%	1%		11%
Snail mail		1%		1%	3%
Personal				1%	1%
Total (%)	44%	53%	1%	2,5%	100%

Time-profile of incoming responses (n=80)



Break-down of responses into 30-day periods

Five determinants of the response rates in Internet supported surveys – the case of the WAP expert survey

1. **Personal e-mail** invitation
2. **Having met** – also a personal touch
3. **E-mail** list invitation to take the survey
4. Effectiveness of the **incentive**
5. **Convenience** of responding format

PS: These are not the only determinants, but those focused upon in the quantitative analysis. Further determinants are discussed by the end of the presentation.

Two data matrices ...

Survey: 80 records (rows),
180 variables (columns)

One matrix for the survey data,
another for the (non-)response analysis data
(with one record/row for each 6380 chances of response)

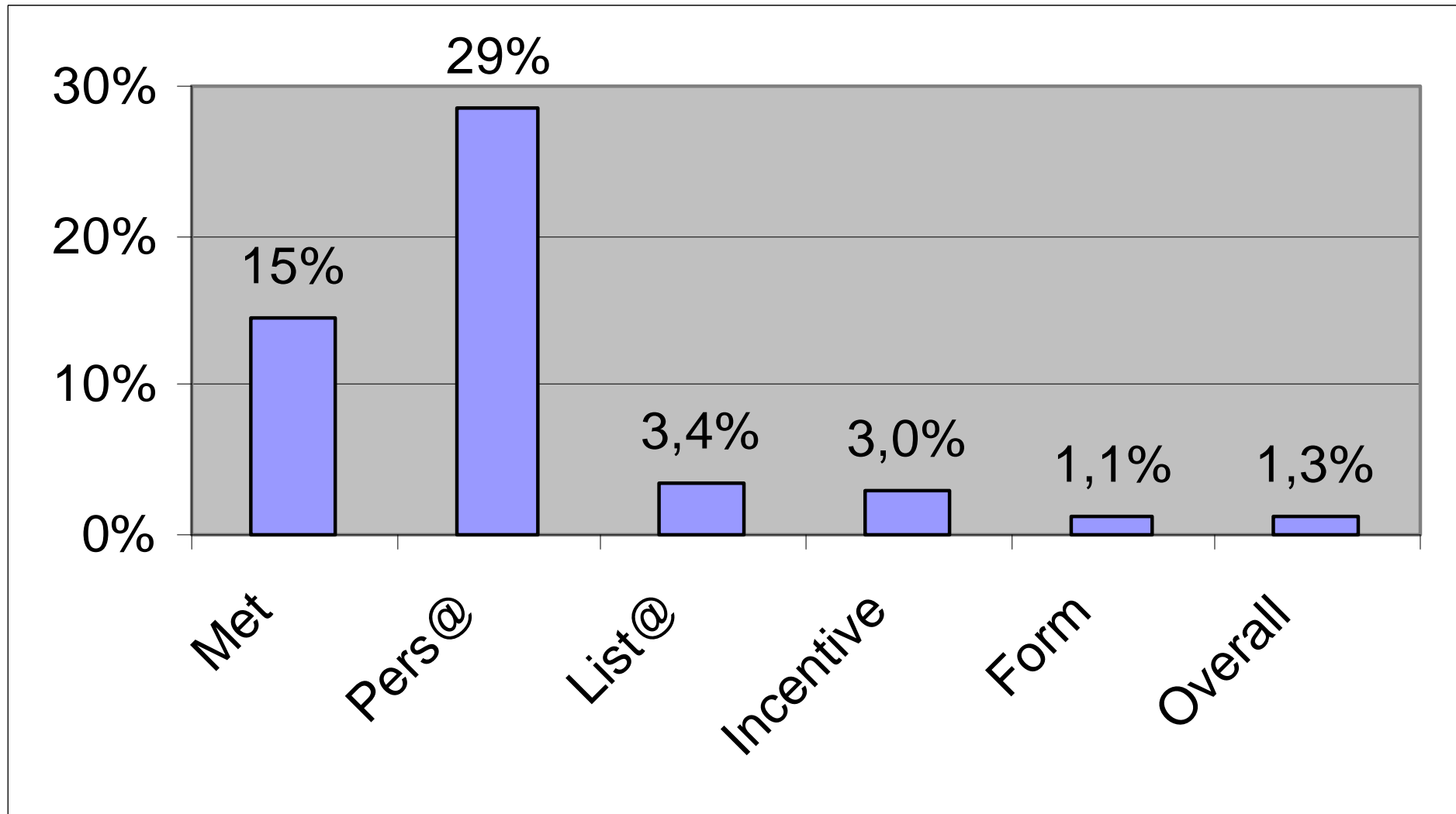
In the response non-response
data matrix, there was 1 dependent variable
(response / non-response) and then
5 independent variables.
All 6 variables were dummy (0-1) variables.

6
col.

by

6380
rows

Response rates by each of five determinants (n=80)



Chi-square analysis shows:

Response – or non response - is not independent of

1. **having met** - or not ← matters
 2. **personal @ invitation** ← matters
 3. **@list invitation** - or not ← matters
 4. effective **incentive** - or not ← matters
-

However:

5. **Web-form** (vs. e-mail+Word-doc) and **response** appear to be independent of each other. BUT:
It would be wrong to ignore the convenience factor.

The following correlation analysis shows the same as the chi-squares.

Correlation coefficients

	MET	PERS@	LIST@	INCENT	FORM
RESPOND	0,226	0,141	0,095	0,078	-0,012
MET		0,090	0,181	0,171	-0,054
PERS@			-0,028	-0,029	0,060
LIST@				0,949	-0,463
INCENT					-0,490

Significant positive correlation between *response* and

1. having met
2. personal @ invitation to respond
3. e-mail list invitation to respond
4. incentive to respond

Significant (sig. 0.000) positive correlation
found between **RESPONSE** and ..

- 1. having met $r=0.20$
- 2. personal @invitation $r=0.14$
- 3. e-mail invitation $r=0.10$
- 4. effective incentive $r=0.08$

but not between **RESPONSE** and

5. Web form (vs. e-mail+Word-doc)

$r=-0.01$ (sig. 0.334)

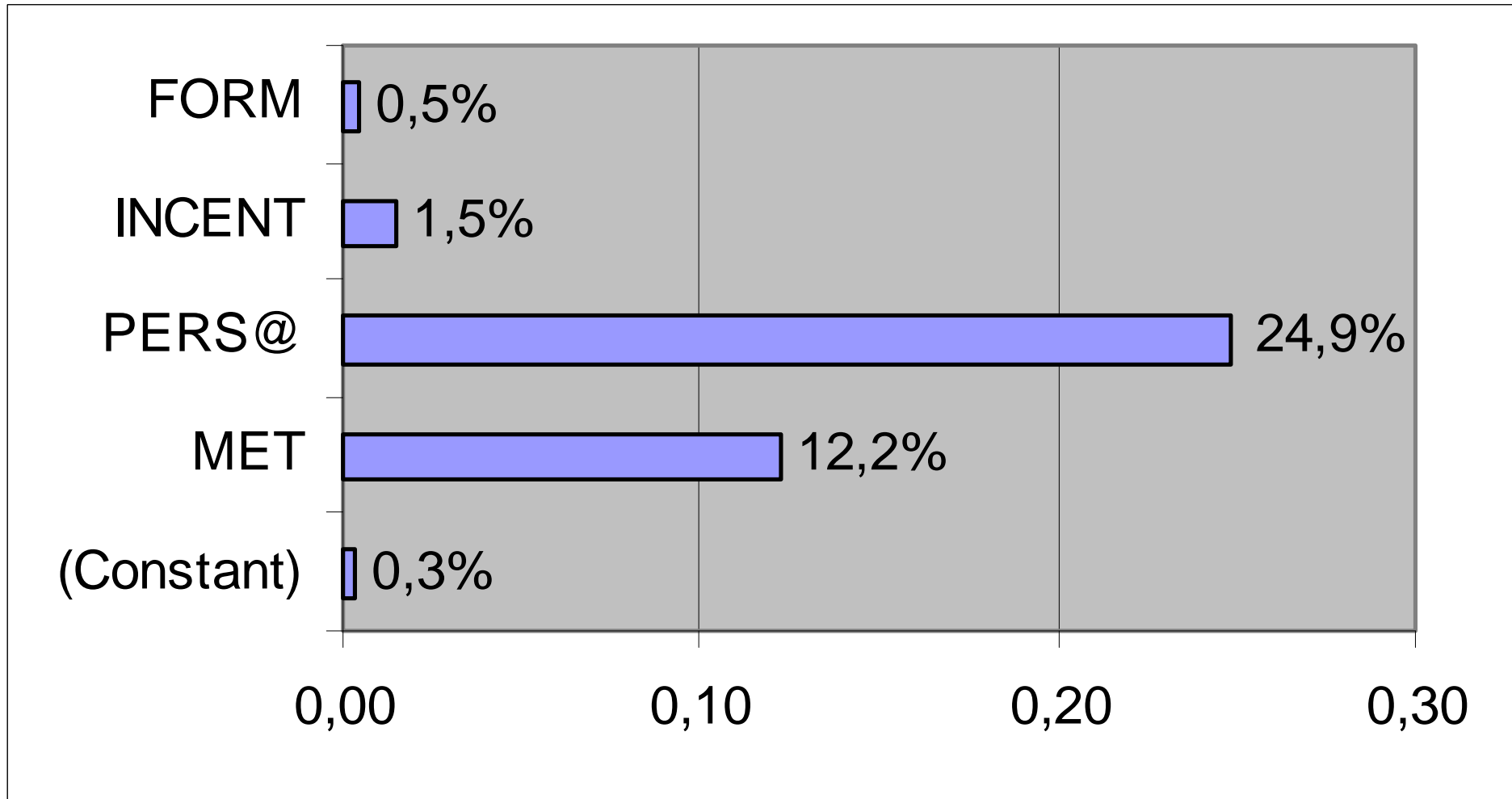
Regression coefficients

	Un-std. Coefficients		Std. Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	0,0034	0,0020		1,3950	0,1630
MET	0,1220	0,0090	0,1750	13,9320	0,0000
PERS@	0,2490	0,0240	0,1280	10,4600	0,0000
INCENT	0,0145	0,0040	0,0530	3,6950	0,0000
FORM	0,0046	0,0030	0,0200	1,4650	0,1430

Dependent Variable: RESPOND

Note: Due to the high correlation between LIST@ and INCENTIVE, only one of these determinants are included in the multiple regression analysis, specifically *incentive*.

Regression coefficients



The best case scenario for expected response rate (in the WAP expert study) is then ..

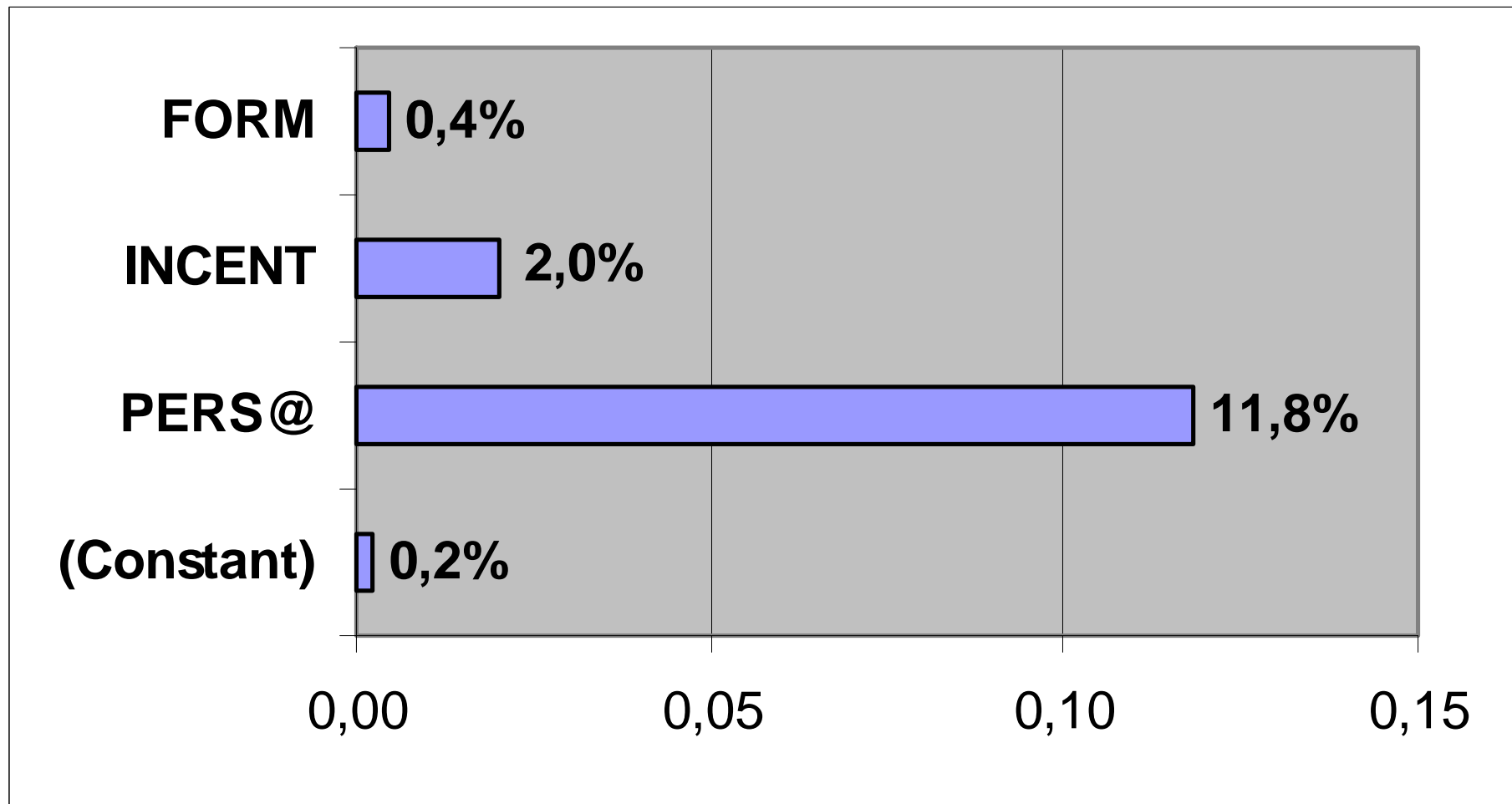
the worst case scenario: 0.3%
as reflected in the constant

- + 24.9% for personal e-mail invitation
- + 12.2% for having met,
- + 1.5% for effective incentive
- + 0.5% for Web form in stead of a more cumbersome response format,
- = total best case response rate: 39%

Response rates among those (21) who received personal e-mail invitation

	No resp.	Response	Total	Rate%
Met	1	4	5	80%
Not met	14	2	16	12,5%
Total	15	6	21	29%

Multiple regression analysis results II: When nobody ever met the researcher



A word of caution

The WAP survey indicates that writing an e-mail invitation to a group of potential respondents you have not met only adds 12% to the expected response rate (not 24%). – An effective incentive can add to the 12%, though, and so can a convenient answering format.

On the other hand, if you write e-mails to somebody you have met and ask them to take your survey, of course you will get a very high response rate (up to 80%).

Response rates in Internet surveys can be anything .. up to 80% .. and down to next to nil. The average response rate is just a function of the mix of methods used. The important thing is make the best use of each method. Look at both response rate and the absolute number of responses.

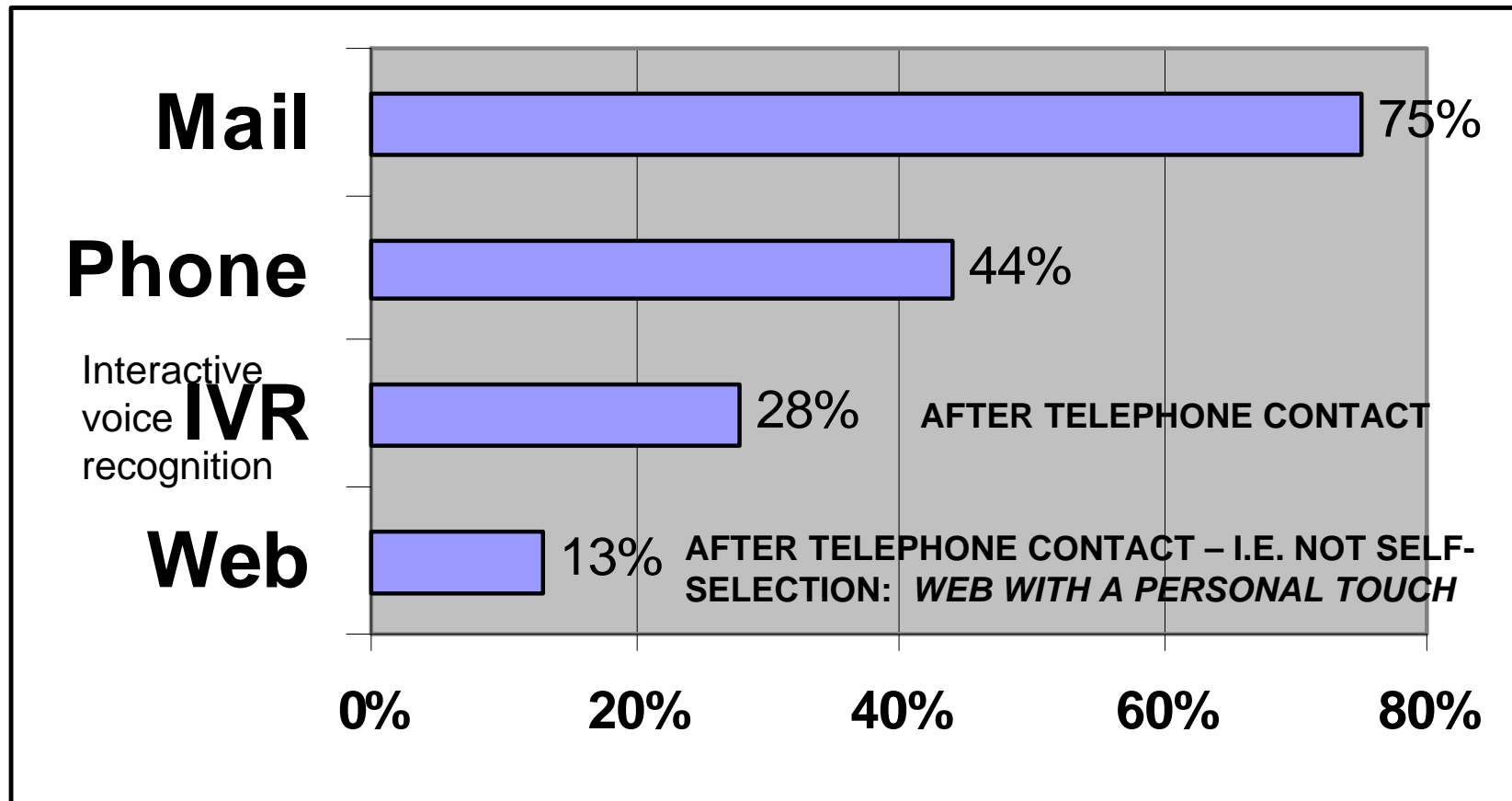
The best case scenario for expected response rate FROM A GROUP OF POTENTIAL RESPONDENTS **NONE OF WHOM YOU HAVE EVER MET** .. the case of the WAP expert survey

Worst case scenario, constant: 0.2%
+ 11.8% for personal e-mail invitation
+ 2.0% for effective incentive
+ 0.4% for Web form (not @attachment),
= total best case response rate: 14.4%

Comments: Personal e-mail invitation → High response rate, .. but few responses.
E-mail list invitation, with effective incentive → Fairly low response rate, but many responses.

Dillman et.al. (2001) reported a Web response rate of **13%** among those with Internet access, after telephone solicitation, snail-mailed instructions and \$2 incentive. A personal e-mail invitation to someone you have never met then appears to be able to do the same trick, i.e. to mimic the same effect as a telephone call etc.

Some comparable response rates across different data collection methods



Source: Dillman, D.A et.al. (2001), *Response Rate and Measurement Differences in Mixed Mode Surveys Using Mail, Telephone, Interactive Voice Response and the Internet*, draft paper, <http://survey.sesrc.wsu.edu/dillman/papers.htm>.

E-mail surveys

	Response rate	Responses
Personal@ invitation even <i>without</i> incentive	High ~12%*	Few
List@ invitation <i>with</i> incentive	Fairly low ~2.2%**	Many

* In the WAP expert survey: $11.8\% + 0.2\% = 12\%$, when no (potential) respondents ever met the researcher. This is even without an incentive. – But *do offer an incentive* if you hope to reach a similar response rate.

** In WAP survey: $0.2\% + 2.0\% = 2.2\%$, with incentive, when nobody ever met the researcher.

E-mail lists: Modest response rates – but rather many responses

Re. last slides: It is rather unrealistic of course, to hand-pick lots of individuals you have never met and send an unsolicited personal e-mail invitation to each. This was done in only 16 instances in the WAP survey – resulting in just 2 responses – out of the total of 80 responses (just 2.5%).

Using on-topic e-mail discussion lists of various kinds is a more time-effective and less intrusive way of soliciting responses and boosting the total number of responses, when combined with an effective incentive.

Other types of mailing lists with e-mail addresses of relevance to the researched topic – such as conference participation lists - are just as effective as e-mail discussion lists for soliciting responses.

In the WAP survey e-mail discussion lists (supplemented with conference mailing lists with e-mail addresses) – in combination with an effective incentive – to people whom the researcher had never met - was the main source of responses in the WAP expert survey – generating 41% of all responses – although the response rate was modest (just under 3%).

When adding responses from people the researcher actually had met – the e-mail list approach (in combination with an effective incentive) to soliciting responses resulted in over half of all responses in the WAP expert survey.

WEB surveys – selfselection – from well-visited access-site - NO personal touch!

	Response rate	Responses
With incentive	Low ~2% *	Probably MANY
Without incentive	Very low ~0.6%**	Rather many ***

* Estimated (not observed) from WAP survey regression coefficients : $0.2\% + 0.4\% + \sim 1.4\%$ or so = 2% .

** In WAP survey: $0.2\% + 0.4\% = 0.6\%$, without any personal touch.

*** With an incentive, the number of respondents would be at least three times as high, though.

PS: If on top of an effective incentive a personal touch is added – such as personal e-mail invitation even to someone you have NOT met OR telephone solicitation and snail mailed instructions – response rates can be 13-15%. Web-response rates – with selfselection only – will be much, much lower.

Possible *danger of too many respondents* (read: non-experts) – in expert surveys – if using incentives in the self-selection mode!

The advantage of offering an incentive in the self-selection mode is of course many respondents: At least three times as many as without an incentive (in WAP survey).

The problem will be, though, if some non-experts take the expert survey – without really being experts – just to get the incentive.

It may not be easy to filter away the non-experts afterwards.

Thus - in expert surveys – to get many respondents is not always desirable! Indeed, any non-experts among the respondents may make the results flawed.

Some implications: Do provide ..

a personal touch if possible:

- personal e-mail, and
- having met helps,
- telephone+mail (+incentive) can also add a personal touch.

Next, make use of:

- e-mail list invitation
- an effective incentive
- a convenient responding format

Convenient answering format

In the current study there was only 0.4% difference in response rate between (1) the *Web form* and (2) *e-mail+word-doc* approach.

But if response rates are low – which they tend to be in Internet supported surveys - even a difference of 0.4% matters.

Other surveys have found that the answering format can dramatically impact response rates.

E-mail surveys: Embedded vs. attached

Research shows that embedded e-mail gives a far better response rate (*4) than the e-mail+attachment approach

Why: e-mail+attachment is cumbersome.
Also: virus fears – even company policy.

But: For long or complex questionnaires the embedded e-mail approach can hardly be used.

So, do consider using embedded e-mail
(but try not to use e-mail + word-doc attachment).

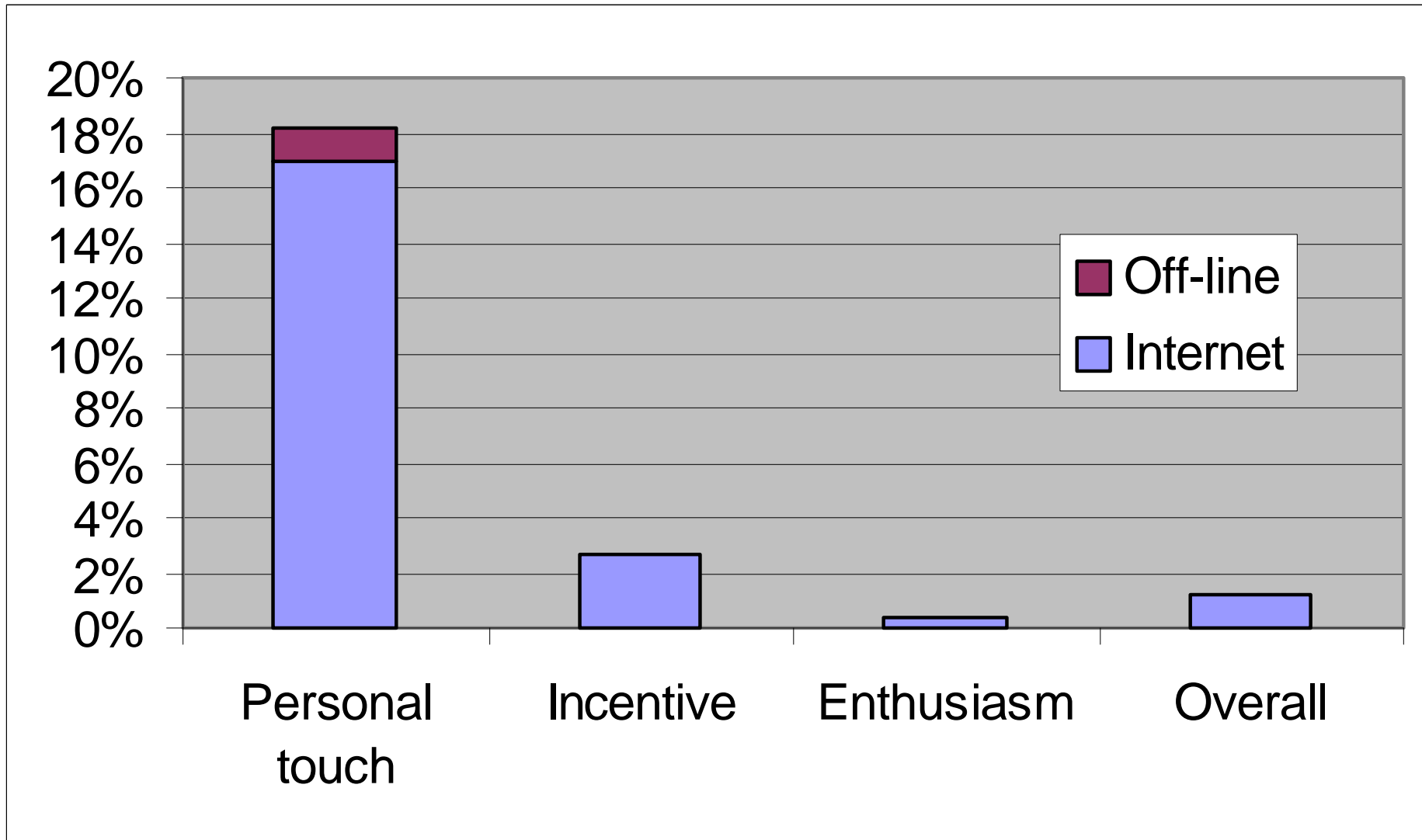
Review of response rates

The findings: 8 different ways of being introduced to the survey, with Internet response rates ranging all the way from 80% down to about 0.25% in three main categories.

Three main drivers of response rates in the Internet supported expert survey

- A. **Personal touch:** Having met or pers@ invitation to take the survey (could also be phone call)
- B. Clear incentive - and typically also list@ invitation – but NO personal touch
- C. Enthusiasm only: NO personal touch (have *not* met, *no* pers@ invitation) – NO list@ invitation (self-selection) – and NO clear incentive – perhaps NO convenient responding format!

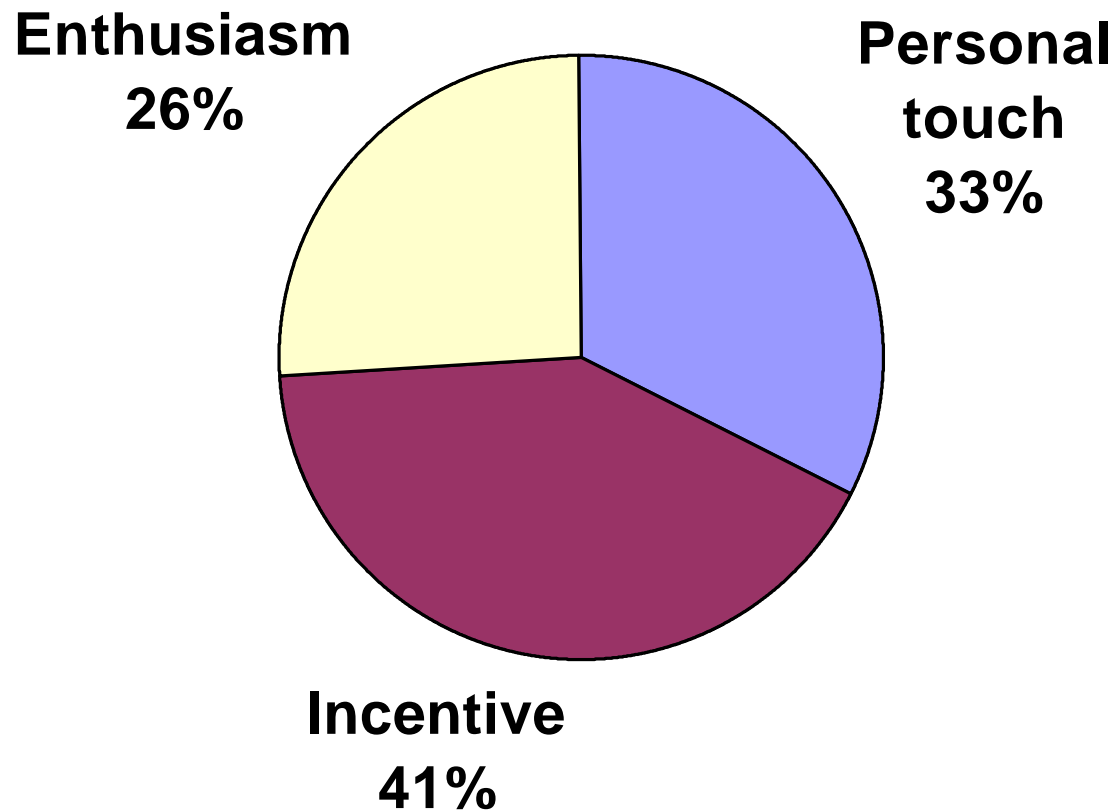
Internet response rates in the WAP expert survey (n=80)



Actual No. of responses, potential
No. of responses, and response
rates by main type of introduction

Response driver	n	Chances	Rate
Personal touch	26	143	18,2%
Incentive	33	1236	2,7%
Enthusiasm	21	5001	0,4%
Total	80	6380	1,3%

Responses by main response drivers (n=80)



Eight combinations of four response determinants each with different response rates

		Met	Pers@	Incentive	Form	n	Chances	Rate	
A	1	yes	no	no	no	2	2	100%	Off-line
A	2	yes	yes	no	yes	4	5	80%	
A	3	yes	no	no	yes	7	32	22%	
A	4	no	yes	no	yes	2	16	13%	
A	5	yes	no	yes	no	11	88	13%	
B	6	no	no	yes	no	33	1236	2,7%	
C	7	no	no	no	yes	17	3000	0,6%	
C	8	no	no	no	no	4	2001	0,2%	
						80	6380	1,3%	

Note: The maximum number of combinations are 16 (2*2*2*2).

A. A personal touch

Overall, the response rate in the "personal touch" category was 18%, ranging from 80% and down to 13%.

It was possible to add a personal touch in the introduction of the potential respondents in the online WAP-survey in a number of ways:

- Personal e-mail invitation

- Having met

(helps *both* when using e-mail lists – *and* when using personal e-mail invitation)

- Could also have been used: **Telephone and/or mail**

A personal touch: 18%

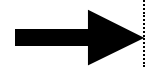
(typically even without an effective incentive)

1. The *off-line* pilot - without incentive: 100%. Face-to-face handing over of hard-copy questionnaire to someone you know.
2. Direct *personal e-mail* – to someone you have met – even without an incentive: 80%
3. Introducing the survey in *face-to-face* interview or at a conference/exhibition – even without an incentive: 22%
4. Direct *personal e-mail* – NOT having met – even without an incentive: 13%
5. E-mail list invitation – with an effective incentive – response rate from those you *have met*: 13%

Response rates

by main driver of response (cont'd)

A. With a personal touch – typically without incentive.



B. Effective incentive, and typically also e-mail invitation - NO personal touch.

C. Enthusiasm only: NO personal touch – NO list@ invitation
- NO clear incentive - sometimes cumbersome answering format.

B. With effective incentive

– but NO personal touch: 2.7%

- Euro. IT-tourism list, not met: 6.0%
- US WAP developer list: 3.7%
- Euro. WAP board (passive): max. 2.0%
- US IT-travel list: 1.7%
- Euro. m-commerce conf. @list,
no rapport (~not really met) 0.0%

(Comments, next slide)

B. With effective incentive – but NO personal touch: 2.7%

Comments to previous slide:

Why such 'poor' response rates? Is it understandable?

- Yes. Less than one in ten of non-respondents had personal experience with WAP.
- Lower response rates from US lists than from European lists - understandable.
- The WAP board was not really a list@, but a website, which could have been list@.
- More direct interest in WAP at the US WAP developer list than on US IT-travel list.

Was it avoidable? – Hardly .. except by not using these lists at all!

But **41%** of all replies came from experts on these lists (*not met*, plus *having met* another **10%**). The researcher would not know of any other way of reaching such experts, from all across the world, including the USA, Australia, India, and Europe.

The response rate of 2.7% (B) is actually quite satisfying!

With the given **length of the questionnaire, required expertise**, and **no** personal touch, it is very hard to see how it could possibly have been much higher. With **an ideal answering format in place from the outset**, the response rate might have been **a little higher** (up to 0.4%), though, provided the incentive was still kept effective from the start.

C. Enthusiasm only:

NO personal touch (have not met, no personal @ invitation) – and NO clear incentive - NO list @ invitation (self-selection) – perhaps NO convenient responding format!

The no-no (no-go) scenario: 0.4%

- Web form: 0.5%
- Saw website, sent @, "OK, e-mail me the Q." – or printed dumb form from Web, filled in by hand, faxed back: 0.25%

Some people will go to extremes to respond.

26% of all respondents did! (Enthusiasm only)

Overall response rate: Just 1.3%
(Internet supported only: 1.2%)

Self-selection, no incentive: In the current study a high number of potential respondents visited the access website - with no particular incentive to respond. This pulled down the overall average.

The incentive was originally free access to a report, but after some time this report was put in the public sphere, which gave many visits to the website of the report, but in relative terms few responses, which makes the overall response rate rather poor.

Interpreting response rates

1. When reading about online response rates, do check – for example – if they are achieved in an Intranet environment (where response rates up to 80% have been reported), or if the respondents were in similar captive situations.
2. And if response rates are stated by a biased source – such as someone trying to promote their services, do take the stated achieved response rates with a grain of salt.
3. Do read about the background for reaching high Internet survey response rates before jumping to the conclusion that your own response rates are miserable.
4. In the self-selection mode response rates are almost *bound to be low*, especially if there is no incentive.

Some e-mail survey response rates stated in published studies

Average reported E-mail survey response rates 18 studies, 1997-2000: 29%

Based on:

www.ascusc.org/jcmc/vol6/issue2/sheehan.html

E-mail response rates achieved here:

Pers@ 29%!

List@ 3.4%!

The above source mentions that the average number of questions was 42, ranging from 5 to 94. Are only the good response rates published? Were the response rates in the published studies for easy-to-answer short questionnaires, or were response rates in excess of 20% really to be expected in the international WAP expert survey – where a response rate of 10% was achieved in the best of three main categories?? Should anything less than 20% really always be considered disappointing?! - In the WAP survey there were 175 questions! The high level of expertise required to take the WAP survey is another reason for the modest response rates.

Why the low response rate(s) in the WAP expert study?

General 'excuses':

- High level of expertise required
- Many questions, time consuming
- International/global survey (?)

The low response rate of Website visitors:

- Website visitors had no incentive to respond
- Dual purpose of incentive report: Readership vs. acting as an effective incentive
- Rather many visitors to access website .. few of which were really capable of responding .. even with the best of will .. and even with any incentive
- An increasing percentage of website visitors used **search engines** to find the access website .. declining percentage used review articles as referring domains to access website
- Website visitors might have been interested merely in mobile phones, not in WAP
- Ideal answering procedure not at place from outset

Response rates by those who actually promised to respond

76% of those who promised to respond actually did so!

(by e-mail or by filling-in a WWW form online).

This is one of the most encouraging experiences from running the online expert survey.

E-mail surveys – ask for commitment (two-step) or not (single-step)?

Criteria	One step appropriate	Two step appropriate
Length of questionnaire	Short	Long
Embedded or attached	Embedded	Attached
Sensitive questions?	No	Possible
Use of reminders?	Problematic: Disturb all on @list	No problem: Only to the committed

Unit response: **99%+**

.. after a manual prompting procedure by e-mail to get answers for any missed questions (out of 175).

That is: Less than one 1% missing values in the data matrix.

There were only one mandatory fields, which makes the unit response even more impressive.

Online surveys - Additional issues

1. Single page vs. multi-page online questionnaires ✓
2. The use or non-use of mandatory fields ✓
3. Completeness (and quality) of responses ✓
4. Closed vs. open-ended questions
5. Time required to fill-in the questionnaire
6. (a) *e-mail+Word-doc* vs. (b) Web form ✓

Online surveys – Additional issues (cont'd)

7. Incentive to fill-in questionnaire ✓

8. Number of responses ✓

9. Geographic applicability of the results

10. Representativeness for what .. in expert surveys

11. The Web as of source of secondary data

12. Online surveys – a relatively new discipline.

Experiences from the WAP expert survey - at a glance

	Responses: n=80 Chances: 6380	Response rate	Responses
A	Personal touch	18%	33% of all
B	Impersonal list@ - with incentive	2.7%	41% of all
C	Self-selection: Web - without incentive	0.4%	26% of all
	Total	1.3%	100%

Conclusion

- A. If a personal touch can be induced in the introduction of potential respondents to online surveys this leads to very high response rates in Internet supported surveys – even without an incentive.
- B. E-mail list invitation – in combination with an effective incentive – can generate many responses, and fair response rates.
- C. Self-selection via the Web should be combined with an incentive. Even without an effective incentive pure enthusiasm can generate surprisingly many responses, but very low response rates.

Appendix A

Selected results
from the international
Internet based expert survey
into WAP for business travellers

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)

The only other attributes of above-overall-importance (of 7.7 on the 0-10 scale) is that content providers ..

abstain from pushing

... general advertising for which users have not opted-in (8.1).

Attributes	Importance- W	Perform. 2000 P (2000)	Perform. 2003 P (2003)
1 many wap-sites	6,9	3,7	8,2
2 deep information	5,6	2,9	7,4
3 up-to-the-min. info.	8,9	4,8	8,6
4 fast connect	8,9	3,4	8,3
5 fast load	8,8	3,5	8,3
6 low handset price	6,3	5,8	8,3
7 low transmis. cost	7,7	3,7	7,6
8 low unit costs	7,5	3,9	7,3
9 personalisation	7,6	2,7	8,1
10 no push	8,1	6,5	4,1
11 html browser	5,8	0,5	6,8
12 data protection	9,1	4,6	6,6
13 presentation	7,4	3,4	7,6
14 easy navigation	8,8	3,6	7,7
Average* (n=80)	7,7	3,9	7,5

Performance *now* (year 2000/1) and by 2003

(or 2005 after subsequently announced delays, i.e. in 3G)

On a scale from 0 to 10 the overall average performance score for the 14 different attributes is 3.9, i.e. 39% of maximum. The most positive thing there is to say about the *performance* of WAP sites by the end of year 2000 is that content providers *currently abstain from* pushing information on to peoples mobile phones, without prior permission (score of 6.5 in 2000).

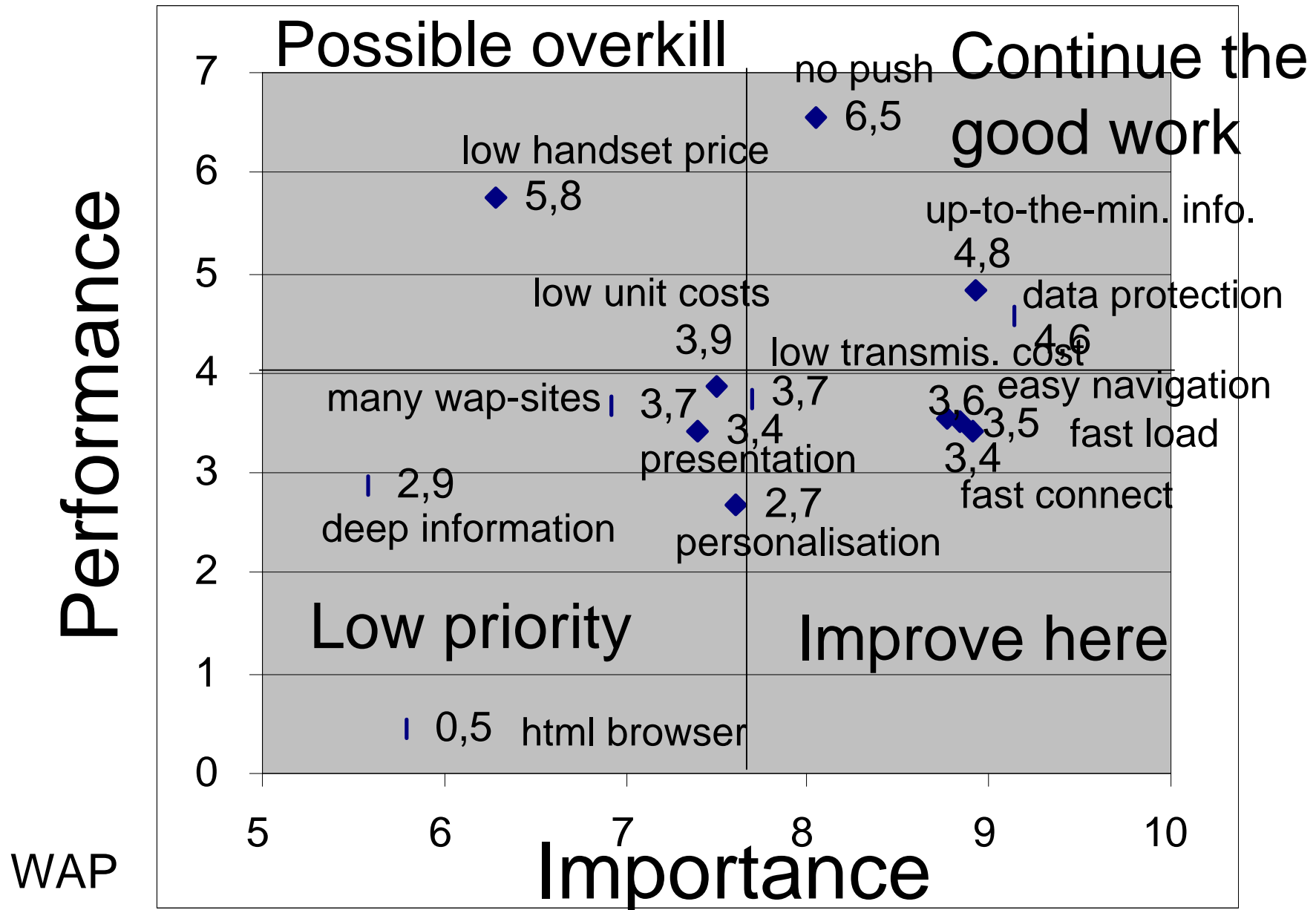
While content provides abstained from pushing un-requested information on to people's mobile phones in the year 2000, this situation is totally reversed by the year 2003. By that time *no-push* is the worst scoring of all 14 attributes.

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

Importance and performance – now



Performance 'in future' – year 2003

Six of 14 attributes score 8.0 or more (i.e. at least 80% of max.) in projected performance by 2003. These are, with the best performing attribute mentioned first:

- | | |
|---------------------------------|-----|
| 1. Up-to-the-minute information | 8.6 |
| 2. Fast connection time | 8.3 |
| 3. Fast loading time | 8.3 |
| 4. Low handset price | 8.3 |
| 5. Many WAP-sites | 8.2 |
| 6. Personalisation | 8.1 |

After weighting the performance in the year 2000 and the year 2003, respectively, with the importance of the different attributes, the most significant improvement (in absolute terms) is in the following six fields:

Primarily:

- Fast connection time.
- Fast loading time.
- Personalisation.

Secondarily:

- html-browser (in addition to wml-browser)
- Ease of navigation.
- Currency of information (up-to-the-minute info.)

WAP application for business travel related services - Overview

In the following we shall review 22 different business travel related services.

These can be classified into five main groups, namely

- 1) air travel related (five services)
- 2) train travel related (two services)
- 3) car travel related (two)
- 4) hotel related (six)
- 5) staying informed - staying in touch (five)

22 business travel related WAP services

Airtravel

- 1 Flight schedules
- 2 Book flight
- 3 Change flight
- 4 Flight delays
- 5 Bonus points

Train travel

- 6 Train schedules
- 7 Train reservation

Car travel

- 8 Driving directions
- 9 Traffic situation
- 10 Weather / road

Hotel related

- 11 Hotel amenities
- 12 Hotel phone nos.
- 13 Room availability
- 14 Book hotel room
- 15 Restautant info.
- 16 What's on tonight

Staying in touch

- 17 News headlines
- 18 Exchange rates
- 19 Share prices
- 20 Buy/sell shares
- 21 Check e-mail box
- 22 e-mail corres.

For each of the 22 different services,
respondents have been asked
whether or not they ..

- A) have accessed the service on the Web
- B) would like to be able to access the service on WAP
- C) think it is currently possible on WAP to suit their needs
- D) have already accessed the service on WAP

(n=80)	A Done so on Web	B Like to do on WAP	C Possible on WAP	D Done so on WAP
Airtravel				
1 Flight schedules	88%	93%	37%	29%
2 Book flight	63%	80%	12%	5%
3 Change flight	29%	85%	8%	5%
4 Flight delays	54%	99%	33%	18%
5 Bonus points	54%	68%	17%	6%
Train travel				
6 Train schedules	75%	89%	32%	23%
7 Train reservation	31%	69%	14%	1%
Car travel				
8 Driving directions	65%	89%	18%	21%
9 Traffic situation	46%	94%	30%	24%
10 Weather / road	80%	94%	42%	25%

(n=80)	A Done so on Web	B Like to do on WAP	C Possible on WAP	D Done so on WAP
Hotel related				
11 Hotel amenities	76%	75%	27%	18%
12 Hotel phone nos.	85%	94%	43%	31%
13 Room availability	69%	88%	22%	10%
14 Book hotel room	65%	85%	17%	10%
15 Restautant info.	78%	90%	27%	25%
16 What's on tonight	73%	90%	36%	28%
Staying in touch				
17 News headlines	98%	91%	60%	55%
18 Exchange rates	93%	88%	43%	28%
19 Share prices	76%	75%	50%	34%
20 Buy/sell shares	43%	49%	22%	4%
21 Check e-mail box	91%	91%	46%	44%
22 e-mail corres.	94%	91%	51%	48%
Average	69%	85%	31%	22%

The 22 business travel related WAP attributes
- in declining order of importance (desirability):

High: 90%+

- 1 Flight delays
- 2 Traffic situation
- 3 Weather / road
- 4 Hotel phone nos.
- 5 e-mail corres.
- 6 Flight schedules
- 7 Check e-mail box
- 8 News headlines

Medium: 80%+

- 9 Restautant info.
- 10 What's on tonight
- 11 Train schedules
- 12 Driving directions
- 13 Room availability
- 14 Exchange rates
- 15 Change flight
- 16 Book hotel room
- 17 Book flight

Low: Under 80%

- 18 Share prices
- 19 Hotel amenities
- 20 Train reservation
- 21 Bonus points
- 22 Buy/sell shares

Classification of those who would like to use WAP

1	2	3	4
Potentially happy users	Want to see development	Happy users	Unhappy users
Would like to do on WAP	Would like to do on WAP	Would like to do on WAP	Would like to do on WAP
Currently possible to do on WAP to suit needs	Currently NOT possible on WAP to suit needs	Currently possible to do on WAP to suit needs	Currently NOT possible on WAP to suit needs
Have NOT yet done on WAP	Have NOT yet done on WAP	Have already done on WAP	Have already done on WAP
12%	50%	17%	7%
5-6-7-8: Would NOT like to do on WAP: 14%			

‘Already done on WAP’: Currently most used WAP-services – by business travellers

The five things which more than 30% of all respondents have already done on WAP are mentioned below. Since 63% of respondents have got at least one WAP-enabled phone this means that more half of those who have got a WAP phone, have done the following:

	<u>(of max. 63%)</u>
1. Get news headlines	55%
2. e-mail correspondence	48%
3. check ordinary e-mail box	44%
4. check share prices	34%
5. hotel phone nos.	31%

Developing WAP-sites for hotels – Most promising concepts

Room availability on WAP	8,3
Integration of Web-site and WAP-site	8,2
Booking on WAP	8,1
Basic contact details	8,0
Location based services	8,0
Driving directions	7,8
Last minute hotel accommodation offers	7,6
Targeting members of loyalty programs	7,3
Personalisation	7,3
What's on, in or nearby hotel	7,2
Distances to xyz	7,0
Basic descriptions of amenities	6,8
Last minute restaurant offers at the hotel	6,8
XML	6,7
One-to-one marketing	6,6
Corporate agreements with chains	6,5
Overall average (n=80)	7,4

Appendix B

About geographic
representativity in the
WAP expert survey - or
rather: geographic
applicability of the results

The WAP survey can largely be considered to be European

India (programmers):	Overrepresented *
Australia, NZ:	Overrepresented *
Western Europe:	Overrepresented *
USA:	Under-represented *
Japan (i-mode):	Not represented
S. Korea:	do.
China:	do.

* Note: Using the distribution of the number of active mobile Internet users worldwide as yard-stick, i.e. users of WAP and similar modes of limited Internet access micro-browsers in mobile phones.

Geographic representativity ..

What yard-sticks to use .. What to aim for?

Well, .. that depends on ..

- who is going to use the results ..
 - who is paying the party ..

Being part of a research project called Internet Commerce for Hotels ...

... funded by the Danish taxpayers –
via the Danish Social Science Research Council –
as part of an ongoing Tourism Research Programme
the results must be relevant for those assisting
Danish and other European hoteliers ... and
ideally others as well, in academia ... and industry.

Being part of an a Research Programme, general criteria
of measuring quality of research – including soundness
of methods used - applies as well.
The more general applicability the better.

With the given geographic composition of the sample the
results are certainly applicable in a European context.

What is the ideal geographic composition of the sample?

The case of the **international WAP expert survey**:

- A high percentage of respondents from *W. Europe* would be no problem, .. in fact *100% would be OK*.
- *No overrepresentation of researcher's home-base*: Denmark is no better represented than other European countries in the sample. - Only few WAP experts in DK.
- *Japan: Not represented at all*. Just as well: WAP is not the main mode in Japan.
- Where are the expert in the relevant field(s) located, i.e. *WAP programmers*. A fair number are located in India → 6% of respondents are from India: OK.
- Where are the experts in *IT for hotels* and other *travel/tourism* services located? (the majority in the USA and in *W. Europe*, probably).
- Where are the *WAP users* located? (cf. earlier over/under-representation slide)
- Where are the *Internet users* located? (many in the US, but US *not* over-rep.)
- All in all: **The geographic composition of the expert survey sample is OK** – with Europe well represented (supplemented with experts from other parts of the world)

Further details about the Internet based survey into WAP for business travellers

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WAP for business travellers,
Research Centre of Bornholm,
September 2001

64 pages, including methodology pp. 26-55,
available in pdf at
www.rcb.dk/uk/staff/chm/wap.htm
scroll to bottom of 7 pages, then click on title.