

Mobile Commerce

- Who Are The Potential Customers

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Background

- Imode by NTT-DoCoMo
- Marcussen (2000) predicts that **16 percent** of the population in Western Europe will be wap-users in 2003. *“By the year 2003 there will still be more than twice as many Web as WAP users, 39 vs. 16% of the population “*

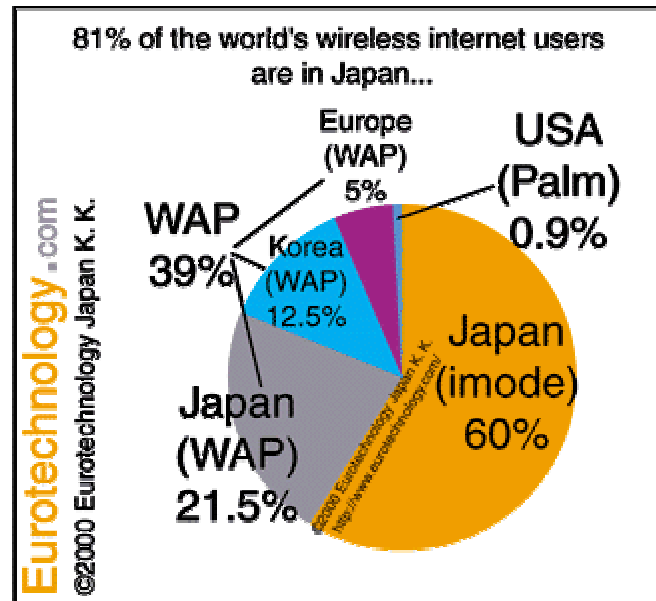
Marcussen, Carl (2000) Mobile Phones, WAP and the Internet.
www.rcb.dk/uk/staff/chm/wap.htm

- *”...capitalizing on the promise of m-commerce requires a deep understanding of consumer behavior.*

Nohria & Leestma (2001) A Moving Target: The Mobile-Commerce Customer. MIT Sloan Management Review

Wireless services and NTT - DoCoMo

- According to Eurotechnology, 81% (25 million) of the world's mobile Internet users are in Japan (December 2000)
- Imode has more than 20 mill subscribers



Initial hypothesis

- Hypothesis (prior to this study);
the typical Norwegian user of WAP-phones and m-commerce services is a frequent user of online banking services and online purchasing.

Key findings from a study by Tjøstheim & Heier (2000):

- the wap-phone owners (Norwegians) have many similarities with the frequent web-users, a relatively high percentage of them had e-commerce experience, and the wap-phones are most popular among managers.
- the members of the segment "planning to buy a wap-phone" have more e-commerce experience than the owners of wap phones.

Tjøstheim & Heier (2001) The characteristics of WAP-phone users - travel habits, Internet usage and demographics. *Proceedings, Information and Communication Technologies in Tourism 2001*

Subscribers of mobile phones in Norway

- Norwegian population: 4.5 million of which 3.7 million are 13 years +
- The number of mobile phones with wap: approx. 315.000
- *“Have you booked or ordered something by using your wap-phone?”*
6% of the owners of a wap-phone answered “yes” which equals approximately. 20.000 Norwegians.
A representative CATI -survey, November 2000
- The number of **daily** wap-users as of October 2000 was 7.000 - 8.000 according to *Telenor Mobil*, the largest telecom operator in Norway.

The surveys

First survey

- A national “representative” CATI survey, November 2000
- Number of respondents November 2000 (grand total): 1997

Second survey

- A national “representative” panel-survey November 2000 to February 2001 (“winter 2001”), a postal survey.
- Number of respondents Winter 2001 (grand total): 5402

Third survey

- A survey by Telenor, the largest telecom operator in Norway
- Number of respondents: 316

November 2000	The Norwegian Internet population	The Norwegian non-Internet population	Grand total (N)
Owners of WAP phones	142 (81%)	34 (19%)	176 (100%)
Summarised vertically	11%	5%	9%
Grand total N (%)	1243 (62%)	754 (38%)	1997 (100%)
Winter 2001			
Owners of WAP-phones	385 (11%)	80 (4%)	465 (9%)
Is planning to buy a WAP-phone the next 12 months	255 (7%)	59 (3%)	304 (6%)
Grand total N (%)	3588 (100%) 66%	1814 (100%) 34%	5402 (100%) 100%

The result of the clustering analyses

November 2000	Segment A Seldom users	Segment B Daily mail	Segment C Weekly users	Segment D Frequent use of online bank-services and e-shopping	Average / Grand total Internet-population
E-mail	42%	99%	94%	98%	81%
Read news	22%	91%	83%	48%	66%
Contact public institutions	7%	50%	23%	43%	29%
Use online bank - services	15%	76%	24%	90%	45%
Use of search services & databases	24%	93%	86%	87%	72%
Games	15%	41%	36%	38%	33%
Education	15%	35%	32%	33%	29%
Travel information	23%	90%	52%	88%	60%
Has purchased online	14%	85%	29%	86%	49%
Grand total	N = 367	N = 408	N = 356	N= 112	N= 1253

The different segments' frequency of use of some Internet services

November 2000	Segment A	Segment B	Segment C	Segment D	The Norwegian Internet-population
Frequent (F) – Seldom (S) – Never (N)	Seldom users F – S - N	Daily mail F - S - N	Weekly users F - S - N	Frequent use of online bank-services and e-shopping F - S - N	F - S - N
E-mail	29 - 13 - 58	87 - 12 - 1	15 - 78 - 6	36 - 63 - 2	45 - 36 - 19
Read news	11 - 11 - 78	63 - 28 - 9	5 - 75 - 17	7 - 41 - 52	26 - 39 - 34
Use online bank-service	8 - 7 - 85	59 - 17 - 24	15 - 9 - 76	79 - 12 - 10	33 - 11 - 55
Has purchased online	5 - 9 - 86	39 - 47 - 15	10 - 19 - 71	74 - 12 - 14	24 - 24 - 51
	N = 367	N = 408	N = 356	N=112	N= 1253

The WAP-phone owners in the Internet population and their Internet-use

November 2000	Segment A	Segment B	Segment C	Segment D	Grand total
	Seldom users	Daily mail	Weekly users	Frequent use of online bank-services and e-shopping	
Owner of WAP-phones	27 (19%)	70 (49%)	28 (20%)	17 (12%)	142 (100%)
Summarized vertically	7%	17%	8%	15%	11%
Grand total N (%)	367 (30%)	408 (33%)	356 (29%)	112 (9%)	1243 (100%)

Demographical characteristics - I

November 2000	The 70 with WAP-phones in segment B	Segment B	The WAP phone owners in general	The total population
Male - female	81% - 19%	62% - 38%	69% - 31%	50% - 50%
Age				
15- 19 years old	7%	6%	13%	8%
20 – 29	29%	22%	19%	13%
30 – 39	17%	29%	20%	20%
40 – 49	29%	25%	26%	19%
50 – 59	14%	15%	13%	18%
60 +	4%	3%	9%	21%
Grand total N (%)	70 (100%)	408 (100%)	176 (100%)	2007 (100%)

Demographical characteristics - 2

November 2000	The 70 with WAP-phones in segment B	Segment B	The WAP phone owners in general	The total population
Education				
- primary school	11%	9%	6%	8%
- senior high school & technical school	29%	33%	52%	57%
- College 1 – 4 years	33%	37%	26%	24%
- College or university 5 years or more	27%	21%	16%	10%
Monthly net income				
< 1000 Euro	9%	14%	17%	23%
1000 – 1999 Euro	17%	33%	28%	40%
2000 – 2749 Euro	30%	26%	23%	16%
2750 Euro +	33%	20%	21%	8%
Un-answered	11%	7%	10%	12%
Urban & rural	50% - 50%	42% - 58%	40% - 60%	32% - 68%
Grand total N (%)	70 (100%)	408 (100%)	176 (100%)	2007 (100%)

The WAP-phone owners' m-commerce and e-commerce experience

November 2000	The 70 with WAP-phone in segment B	The WAP-phone owners in general	Segment B	The Internet-population
Have ordered goods or services from the WAP-phone	10%	6%	(2%)	
Has e-commerce experience (has ordered something online at least once)	93%	56%	85%	48%
Has ordered something online the last month	53%	28%	41%	22%
Median amount for goods or services bought on the Internet the last month (EURO)	250	145	125	125
Grand total N (%)	70 (100%)	176 (100%)	408 (100%)	1253 (100%)

A second clustering

- of those with e-commerce experience

Winter 2001

1. Books (399) 2. Air tickets (397) 3. Holiday packages (396) 4. Other (390) 5. Music/CD (389) 6. Accommodation (348)	7. Information services (327) 8. Tickets (ex. air tickets) (328) 9. Software (267) 10. Electric articles (235) 11. Apparels & shoes (200) 12. Hardware (191)	13. Shares and bonds (161) 14. Flowers & gifts (159) 15. Entertainment (154) 16. Sports & leisure products (142) 17. Food & liquor (49) 18. Cars (38) 19. Furniture (25) 20. Real estate (24)
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Number of respondents in parenthesis
 N= 1620

The profile of the segments

(Internet users with e-commerce experience)

Winter 2001	Segment 1 Fr - Se – No	Segment 2 Fr - Se – No	Segment 3 Fr - Se – No	Segment 4 Fr - Se – No	Segment 5 Fr - Se – No
Frequent (Fr) – Seldom (Se) – Never (No)	The music buyers	The culturals	The seldom e-shoppers	The frequent e- shoppers	The travellers
Books (7 - 17 - 75)	11 - 19 - 70	13 - 57 - 30	5 - 14 - 81	39 - 42 - 19	8 - 6 – 86
CDs/music (8 - 16 - 76)	24 - 76 - 0	11 - 5 - 84	0 - 0 - 100	77 - 12 - 12	6 - 5 – 89
Air tickets (5 - 19 - 76)	4 - 11 - 85	9 - 28 - 63	5 - 11 - 83	15 - 15 - 69	5 - 79 – 16
Holiday packages (2 - 22 - 76)	3 - 12 - 85	4 - 68 - 27	1 - 9 - 90	12 - 21 - 67	3 - 82 – 15
Accommodation (2 - 19 - 79)	2 - 9 - 89	6 - 34 - 60	1 - 10 - 88	12 - 52 - 36	3 - 78 – 19
Tickets (not air tickets) (4-16-80)	4 - 13 - 83	10 - 77 - 13	2 - 11 - 87	12 - 16 - 72	7 - 16 – 77
Software (3 - 13 - 84)	5 - 17 - 78	2 - 16 - 82	2 - 13 - 85	35 - 19 - 46	4 - 16 – 80
Other (6 - 18 - 76)	9 - 18 - 73	6 - 12 - 82	5 - 23 - 72	28 - 48 - 24	7 - 20 – 73
N=1544	N = 325	N = 136	N = 869	N= 26	N= 188

Owner of WAP-phones and the five segments

Winter 2001	Total	The music buyers	The culturals	The seldom e-shoppers	The frequent e-shoppers	The travellers
Has a WAP-phone	208 (14%)	47 (15%)	22 (17%)	97 (12%)	9 (36%)	33 (18%)
Summarized horizontally		23%	11%	47%	4%	16%
Is planning to buy a WAP-phone	136 (9%)	31 (10%)	11 (8%)	68 (8%)	2 (8%)	24 (13%)
Summarized horizontally		23%	8%	50%	1%	18%
Grand total N	1492	318	133	834	25	182

Norwegian WAP-phone owners compared with Japanese I-mode users

November 2000 (Norway) September - December 2000 (Japan)	The Norwegian WAP phone owners Male	The Norwegian WAP phone owners Female	Japanese I-mode users Male	Japanese I-mode users Female
Age				
15- 19 years old	7%	5%	6%	7%
20 – 29	14%	5%	21%	19%
30 – 39	14%	6%	15%	9%
40 – 49	18%	9%	11%	4%
50 +	15%	7%	7%	2%
Sex / N	69% (121)	31% (55)	59% (352)	41% (243)

The knowledge and use of WAP-services

- results from a survey targeted at owners/users of wap-phones by Telenor

October & November 2000	Knowledge of WAP-services	Use of WAP services
News & weather E-mail/messages Search & browsing	69% 35% 30%	66% 25% 22%
Bank & finance Phone services Market place	28% 16% 15%	18% 9% 6%
Travel Other Don't know / can't remember	12% 29% 9%	6% 22% 9%
Grand total N (%) Source: Stegavik (2000)	316 (100%)	316 (100%)

Key findings

- These owners and users of WAP-phones and services are typically **frequent users of Internet** and a relatively high percentage of them had e-commerce experience.
- A sub group of WAP-phone owners (wap-phone owners in segment B), with the following characteristics was identified; they are **male, young, better educated, urban** and belong to the **high-income** part of the population. For instance 93% had e-commerce experience and 10% had ordered something from their wap-phone.
- High frequency of Internet use and willingness to spend money online, seems to be a prerequisite for m-commerce. It's only in this segment we have found use of m-commerce services of some significance.

M- commerce - when?

- “*Consumers in the Telecommunications Age want information now: They want it **fast**; they want it **simple**, they want it **cheaply**; and more importantly, they want it often **while doing something else**”*

Kaufman, C. F. & Lane, P. M. (1997) Understanding Consumer Information Needs: The Impact of Polychronic Time Use, *Telematics and Informatics*“

but it seems that is going to take some time before m-commerce is here