

Press Release:

**Study on Status and Perspectives for
WAP-technology**

- A Follow-Up to the World's First End-user Study on WAP Technology



v i l s t r u p i n t e r a c t i v e

1. Background and objective of the study

1.1 Background of the study

The new opportunities for interactive and cordless transmission have in a radical way changed our experience of time and space radicalising the foundation of distribution and use of information.

In correspondence with the application and distribution of the mobile Internet a new need for knowledge about the media has come about, which includes customer behaviour, attitudes, usability and potential.

1.2 The objective of the study

In order to comply with this need for knowledge Vilstrup Interactive conducted the world's first study among *end-users* of the mobile Internet in July 2000. The study was on the one hand a status of use and attitudes towards WAP and on the other it uncovered the opportunities for WAP distribution in Denmark.

This study seeks to follow up on the first study. More specifically the study includes a status on end-user perception and opportunities of:

- Wapping
- Content of the mobile internet
- WAP telephones
- Teleoperators

Moreover, the study includes interviews with a representative selection of the Danish population concerning perspectives and opportunities regarding:

- The dissemination of WAP

For a more specific introduction to the content of the report we refer to the study's table of content that is attached to this press release.

This study is part of a quarterly monitoring and updating of the development of end-user (and potential end-user) attitudes, expectations and behaviour towards WAP – Vilstrup Interactive's "Barometer on the Mobile Internet". As a subscriber to the barometer you are urged to participate in the elaboration of the research design.

2. Methodology

2.1 Respondents and media of inquiry

Vilstrup Interactive has established a partnership with Wapportal.dk, which includes Denmark's biggest panel of WAP-users (an estimated 10.000). The vast number of

WAP-users constitutes a solid statistic foundation for a general analysis of the applicability of the WAP media and the perceived value among the end-users.

It is important to stress that the panel at Wapportal.dk is *independent* of producer- and teleoperator interests, which strengthens the study as representative among users of WAP-technology.

The study has been conducted through two different media:

Web-study among users

918 WAP-users have participated in a web-survey in the period 07.11. – 14.11. 2000

Telephone-inquiry among non-users

Vilstrup Interactive has interviewed a representative selection of the Danish population. 1,978 interviews were accomplished in the period 08.11. – 20.11. 2000.

2.2. General remarks on the process of the study

The study in general has been conducted with a satisfactory result. The ambition has been to make a thorough quantitative and qualitative analysis of the WAP-media in Denmark through interactive questioning techniques on the Internet.

Vilstrup Interactive has developed and tested different interactive research technologies, based on the specific premises of the web-media. This has been undertaken based on the fact that traditional research techniques only to a limited extent can be transferred to digital media.

Moreover, Vilstrup Interactive has used a telephone interview to draw a representative picture of the knowledge and attitude of the Danes towards the WAP-media. In this sense a solid point of departure has been created for a general conclusion concerning the distribution and potential of the WAP-Media in Denmark.

The present report is a product of:

Vilstrup Interactive
Frederiksborggade 18
DK-1360 København K
Tlf.: +45 33 12 44 11
www.vilstrup-interactive.com

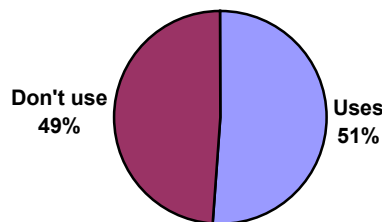
3. Some of the study's general findings

For the first time since the introduction of WAP, Vilstrup Interactive can now give a clear indication of how many of the owners of a WAP phone that actually use the WAP function.

One of the major findings of this study is that only half of the owners of a WAP telephone actually use the WAP function (chart 1). One would expect this number to be much higher if WAP fulfilled the promise of adding value to the individual user, especially considering the fact that WAP telephones are often more expensive than “normal” mobile telephones and often do not contain other special features apart from WAP.

They are in other words bought with the clear intention of actually using the WAP functionality. Something, only half of the owners end up doing.

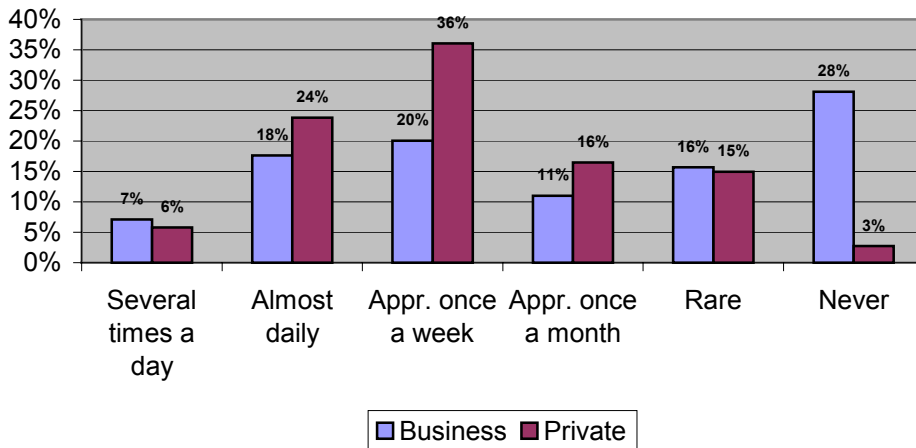
Chart 1: Use of WAP function
Basis: Owns a WAP phone, n=131



The study points to several positive aspects of the future opportunities for WAP. In spite of the small decrease in the overall use of WAP it is still a fact that three out of four users of WAP use at least once a week (chart 2). This relatively high number of frequent users indicates that the reason why WAP disappoints is perhaps more due to unreasonably high expectations than an actual bad product.

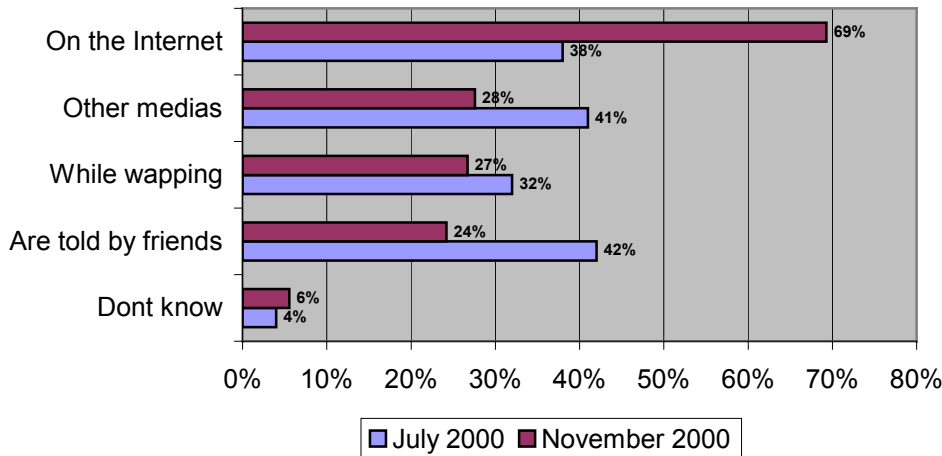
Furthermore, WAP is used extensively for business purposes. 45% of the users use WAP at least once a week in a business context (chart 2). Not only is there an extensive business use of WAP, where email via WAP is the most used application, but this study also detects a strong business potential. The users point to a strong potential in WAP enabling of applications such as: Time Management, Supply Chain Management, Customer Relations Management and Product Life-Cycle management.

Chart 2: Wapping: Business and private use



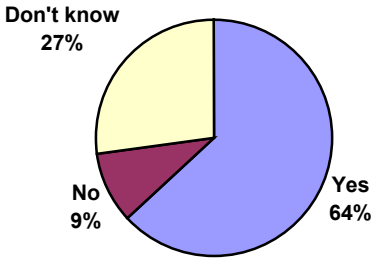
There has been a significant change in the ways the users discover new WAP-services compared to the previous study (chart 3). Where 38% of the users discovered new services on the Internet in July the number is now 69%. This increase can be explained by a quantitatively as well as qualitatively increase in WAP-portals on the Internet.

Chart 3: Discovery of new WAP services, July/November 2000



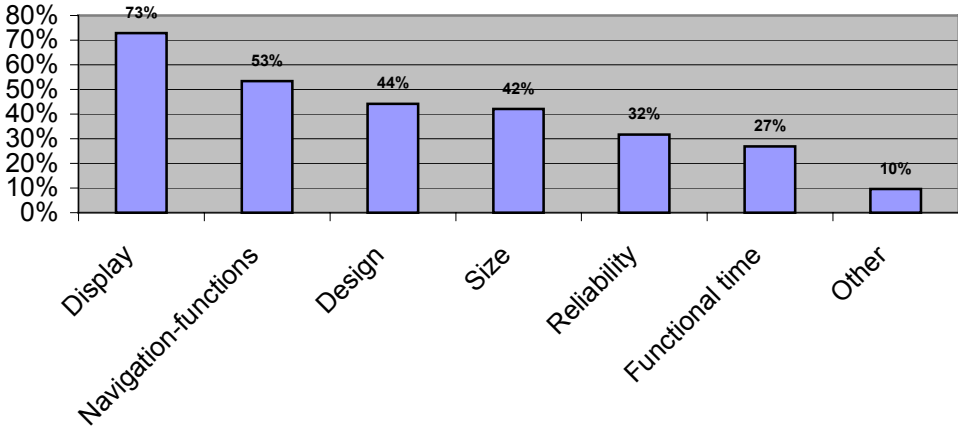
One of the major findings of the previous study was the fact that the users mentioned low speed as the greatest problem with WAP. In this study the users were asked whether they expected to wap more when the faster GPRS system is introduced in the year 2001 (chart 4). The users were informed that in order to use the new GPRS system they would have to acquire a new WAP telephone. 64% of the users stated they would expect to wap more when GPRS is introduced.

Chart 4: Increase in use after introduction of GPRS



It is not possible to speak of significant differences in the users intentions to buy a new WAP telephone when you look at what brand of WAP telephone they have now. However, it is interesting to see that the users value the display very high when asked what features are most important when buying a new WAP telephone (chart 5). 79% of the users state that the display is an important feature of their new WAP telephone. Other important aspects are navigation functions, design and size.

Chart 5: Important features of new WAP phone



4. Table of content

1. Background and objective	
2. Methodology	
4. The Dissemination of WAP	
• Mobile phones in Danish households	
• Use of mobile phones	
• Use of SMS	
• Knowledge of WAP (July/November)	
• Intentions to buy a WAP-phone (July/November)	
• WAP-phones in Danish households (July/November)	
• Use of WAP function	
• Demographic profile of WAP users	
5. Wapping	
• Wapping frequency total	
• Wapping frequency Business/Private	
• Use of WAP in business contexts	
• WAP enabled business applications in companies	
• Types of WAP enabled business applications in companies	
• Potential of WAP enabled business applications in companies	
• Types of potential WAP enabled business applications in companies	
• Use of free wap with Mobilix	
• Use of e-mail (July/November)	
• Reasons for not using e-mail	
• Navigation on WAP (July/November)	
• Use of bookmarks	
• Reasons for not using bookmarks	
• Discover new services (July/November)	
• Who pays for WAP (July/November)	
• Expectations to introduction of GPRS	
6. Content of the Mobile Internet	
• Satisfaction with supply (July/November)	
• Use of different services (July/November)	
• Most used portals (July/November)	
• Top 5 most used sites	
• Top 5 best functioning site	
• Use of M-commerce (July/November)	
• Safety with M-Commerce (July/November)	
• End-user's attitudes towards WAP	
7. Wap telephones	
• Market share of WAP-telephones (July/November)	
• Satisfaction with WAP telephones (July/November)	
• Reasons for satisfaction with WAP telephones	
• Place of purchase of WAP-telephone	
• Plans to purchase new WAP-phone	
• Required features of new WAP-phone	
• Preferred new brand	

- Reasons for preferring new brand
- 8. Teleoperators.....
- Market share for WAP teleoperators (July/November)
- Satisfaction with teleoperator (July/November)
- Reasons for satisfaction with teleoperators
- Plans to change teleoperator
- Required qualities of new teleoperator
- Preferred new teleoperator
- 9. Appendix: Questionnaire