Presenting

The Wireless and Internet Marketing Initiative

NetValue

Beyond Internet Measurement

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Presenting the Wireless and Internet Marketing Initiative

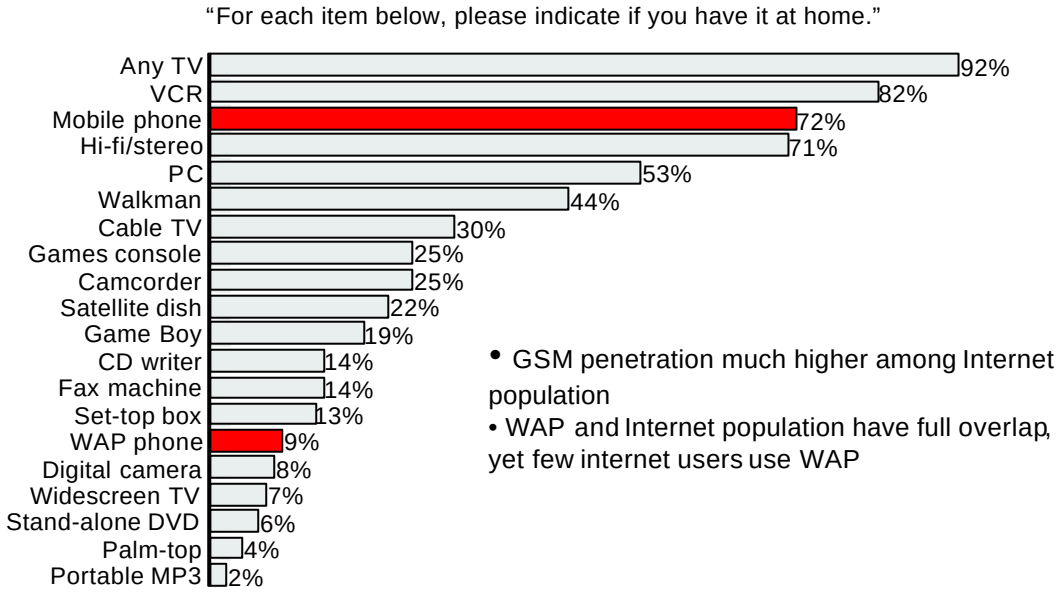
What will drive the adoption of Broadband Wireless by consumers ?

The Euro Multi-Billion question.

« *No one knows whether consumers will want 3G wireless service enough to pay extra for it* » . Business Week, Feb 2002

This is the key question Telecom operators have to address along the way of their migration to GPRS/UMTS. Some related challenges include :

- Invest in new platforms , from networks to telephone sets
- Figure out new services and their right combination
- Figure out the right pricing schemes
- Target the right customer segments for the migration
- Combine Wi-LAN with GPRS/UMTS offerings for professionals



Base: total ***Online*** *European population, aged 16 and above, Source Forrester*

So if at end of 2001, almost all WAP users were already online, a small fraction of the online population used Wireless Internet and the rest may wonder why they should.

Why it matters

Since pricing remains almost identical for basic services on GSM and GPRS and I-Mode, and possibly UMTS later, overall revenue growth and ARPU growth can only come from « new » and higher « value-added »services : multimedia email, music, downloads, purchases, extended intranet applications…. . Yet, what will drive such growth ? Which customer segment can leverage the viral nature of these services ?

Also each operator sees the advent of these Broadband services as an opportunity to grow and capture new customers. However, any similar breakthrough is also an opportunity to switch for supposedly loyal customers. How will this affect churn ? Should such phenomenon be addressed in traditional ways (like handset upgrades based on duration of past subscription) or be considered in new ways (like concert tickets or some other goodies for high ARPU customers) ?

These questions illustrate only but a few of the questions that the market needs to cope with. We believe only a full customer marketing approach can help master and develop the market in the first place before competing for it.

The market assumptions

From observations garnered from industry insiders, analysts or suppliers to the wireless industry, a number of assumptions can be made, that give an indication of the depth of issues to be resolved :

- The WAP failure gives no indication of future successful services
- Business users represent 10% of customer bases yet 30% of revenues on average
- Churn is still around 20% on average
- Voice still represents over 90% of revenues
- GPRS/UMTS is expected by some to grow ARPU by 30- 50% minimum within 3 years ! !
- Basic subscription rates are to remain flat over the next years

As in many many mass-markets, the customer is or should be at the center, especially when the market is offer-driven .

The customer challenge

Which customers?

Business or/and consumer?

Operators have apparently placed their bets on consumers, because of sheer volume and the need to rapidly ramp up adoption of services. At the same time, they place significant attention to develop appropriate services for the demanding business users around, primarily around the concept of the « extended office » or the « desk-less worker ». In the business environment, the advent of Wireless LAN technology should also act as an enabling factor as it should generate a mindset of permanent wireless connection to online services.

Consumers.

Main issue has become they have few expectations… until they see « it ». Technology innovation, the blurring between platforms (TV, PC, PDA,…) and a supply driven market make its always harder for consumers to fancy their exact needs or wishes. Convenience, simplicity or low cost drive consumer adoption, just like SMS did recently on all counts. This good surprise has contradicted a number of early assumptions that consumers would endorse sophisticated wireless web services. Once consumers had SMS, they preferred this simple, cost-effective communication service instead.

Ultimately, the absence of a killer application will further drive the need for segmentation up to possibly micro segmentation.

Which interactive services?

Games? Communities? Pictures?...

All operators in respectively the wireline Internet, wireless Internet, Interactive Television aim at reaching ARPUs of € 80-100 per user/month. Beyond the unlikeliness of a combined achievement of such goals, consumers will decide over time which platform is best suited for a set of preferred applications. How to identify the right combination between services and platforms, that users are ready to for ?

What can we learn from the wireline Internet?

M-marketing, m-advertising, m-ticketing, m-conferencing, m-collaboration,..?

The Wireline Internet user base has been clearly unabashed so far by WAP services. Yet this wireline experience has established behavior patterns that impact future wireless interactive activity.
For instance, wireline Internet measurement has evidenced learning curves that ultimately lead to significant online purchasing. How will such curves look like in the wireless environment ? What can we learn from the Wireline Internet experience to create viral marketing among Broadband wireless users ? How fast will they endorse new services and go beyond the usual tech-savvy early adopters to reach the mainstream market ?

How to identify data/voice services people are ready to pay for ?

Will mobile users pay for services, that are free on the wireline ?
Most likely if time or location drive a stronger need for this service, as is the case already today.

Move to combination of flat-rate and premium services: music retail, e-commerce,…?
Clearly pricing structures may become much more complex, driven by the inner attributes of the combination of services offered.

How to prevent consumers from making de facto decisions that will prevent most operators to reach their expectations of higher ARPUs, whether they provide Internet access, wireless services, Interactive television,….. ?

Which revenues?

The aggregation of all the consumer intelligence the Initiative aims at building, along with the constraints of platforms, regulations, human resource will identify revenue sources and dictate the winning business models, with possibly a few iterations along the way indeed. A proper marketing approach should hopefully minimize the number of iterations thus help reach profitability earlier.

Pricing is clearly a key issue, associated with Billing. Identifying the right combination at any point is time is more complex today with the exponential number of possibilities.

The WIMI or Wireless and Internet Marketing Initiative

In established mass consumer markets, like Consumer Packaged Goods, Consumer panels are the primary way to monitor all aspects of consumer behavior, attitudes, expectations. They have a pivotal role in assessing effective customer attitudes, while also helping analyze impact from advertising campaigns.

Through WIMI, an initial group of players has teamed to adapt such traditional approach to the specific attributes of the Wireless market and its present main challenges. There is strong evidence in all Media of the advertising pressure Operators put on consumers. Yet, analysis of the wireline Internet has shown consumers with significant Internet experience have developed some forms of maturity that can deride many well designed advertising campaigns. As an example, online users have sometimes more information about a car they plan to buy than the dealer representative they will buy from. In addition, visited web sites along the way may have contradicted many an advertising message from car manufacturers. Will this also happen when consumers will be proposed to switch to GPRS and UMTS ?

Today, with strong uncertainty looming over the migration to Broadband wireless, putting the Consumer really at the center, with sound Marketing approaches like a proper *micro segmentation* of its usage and attitude, is an insurance policy against a pricey failure for all involved.

The WIMI founding members.

The initial group is composed of : Arthur D Little, Kabira, Sun Microsystems and NetValue.
The WIMI is open to industry players namely : software solutions, marketing experts, platform vendors, operators, industry organizations.
Participants have the opportunity to get privileged access to key intelligence about ways to experience successful rollouts of Wireless Internet.

The Core platform.

This initial platform has a simple, clear, yet broad ambition :

Know the people and know how they use wireline-wireless services.

Its key components are :

- A panel of customers of one or more operators
- A measurement system to monitor their online digital activities, along with their overall wireless activity
- Online-Offline surveys of the panel
- Usage & attitude toward mobile & data
- Cross examination of interactive activity with consumer records and billing records
- Strictly statistical analysis and privacy respect
- Analysis and presentation tools and applications
- Services to support the project from initial definition to actionable advice

How it works

Main requirements and steps of the process are :

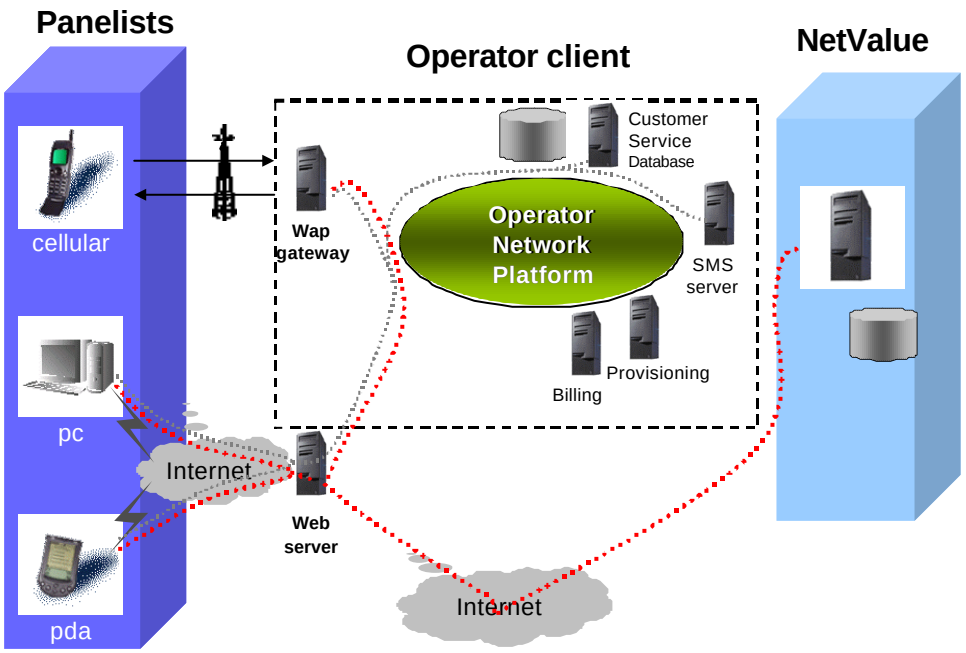
1. Grant WIMI Service Provider access to an Operator's subscriber base
2. Identify their environment (wireless, wireline, PDA, iTV,…)
3. Recruit them into the panel through adequate incentive
4. Gain access to their activity records from the operator (contract, CDR, location, SMS,…)
5. Collect all such information into a single database
6. Extract meaningful information for analysis

Access (step 1) is granted to the WIMI Service Provider (NetValue) by the participant operator(s).
Initial survey fulfills Steps 2. And 3.
For step 4, WIMI Service Provider (NetValue) cooperates primarily with the operator and Kabira. This highly critical steps deserves some further explanation : while most customer information usually resides in the Operators' Customer Service database and is thus easily accessible for WIMI Service Provider, some information like user location, wireless Internet activity or SMS activity are harder to extract while not disturbing Operations. NetValue has teamed with Kabira Technologies to leverage its mediation platforms and expertise to execute such action. Details are in addendum B.

Steps 5 and 6 are the main area of cooperation with potential partners in the WIMI initiative from data analysis to strategic and marketing consulting, along with service providers for the Wireless Internet.

The platform environment.

In addition, devices like Interactive Television set top boxes can be included, upon availability of tracking software for them.



Deliverables.

Measurement data are, according to scheme above, stored and analyzed in NetValue datawarehouse platform. Resulting information produced ranges from top level analytics up to cross analysis of targeted subgroups, through customized versions of NetValue Online.
Topics addressable include typically :

- Overall activity
- Competitive pressure
- Advertising exposure
- Break down by service: wireless, Internet, PDA,…
- Impact of device on services
- Impact of location on services
- Impact of billing status on services
- Impact of satisfaction on behavior
- Analysis of cross impact of variables
- Usage and attitude : Mobile, wireline, combined

Examples are available in addendum A.

Typical benefits

Participants to the WIMI Initiative from the client side can expect benefits mainly among such line :

- Which services or combination win customers over
- Which targets best meet objectives
- Which partnerships can generate most value
- Which marketing viral techniques can lure additional customers

Practically, such benefits derive from reports among sample list below (see Sample deliverables in Addendum A):

- Impact of prepaid vs subscriptions on adoption of new services
- Impact of mobility onto Wireless Internet consumption
- Impact of the Web on churn
- Size platforms/networks through effective understanding of bandwidth needs
- Transactions: wireless or wireline?
- Conversion of existing customer base to broadband wireless: who, when, why?
- Who can be the early adopters, the trend setters?
- Possible learning curves
- Multi-access portals: a good idea?

In addition, consulting expertise from AD Little, NetValue and other relevant contributors ensure ability to focus on issues in a timely and optimized manner.

Conclusion

WIMI is based on a solid and proven combination of technology expertise, deep knowledge of the Wireless environment and Consumer Marketing altogether. As any similar initiative, it is also a work in progress to jointly evolve along the migration towards Broadband wireless.
This initiative, though carefully designed will meet success only with the commitment and support of Operators , as they acknowledge the need for significant and adapted efforts towards the Consumer.

Participants have the clear opportunity to get privileged access to key intelligence about ways to experience successful rollouts of Wireless Internet.

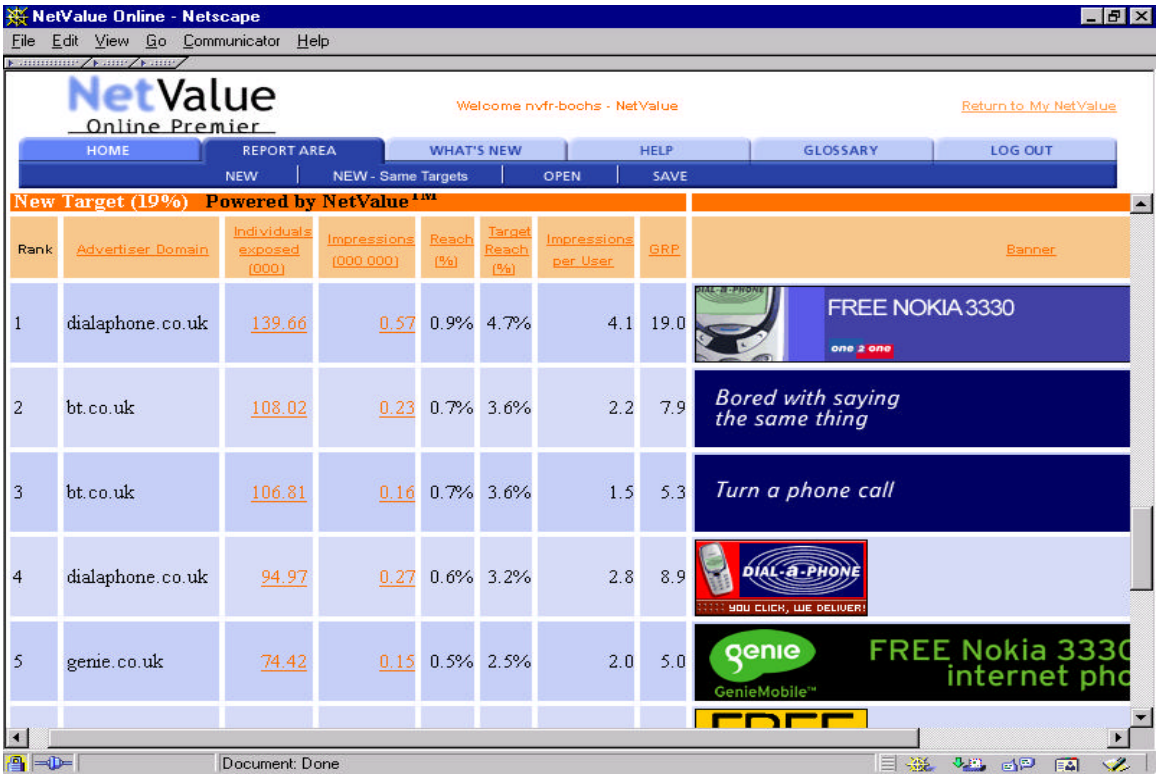
Addendum A

Examples of deliverables

1. Competitive analysis

Such analysis, though not truly part of the WIMI initiative per se, will help fine tune of a WIMI related project, based on thorough understanding of Internet customer experience. Based on existing available panels, such analysis can focus on the profile of a specific customer base, here Vodafone, and some aspects of their Internet experience, like which telecom specific ads they have seen online and which Telecom related sites they have visited.

Exposure of Vodafone customer base (12/2001) to Telecom ads.



Vodafone customers represents 19% of UK Internet population.
The top 6 banner ads they have seen over the month come from Vodafone competition : One2One and BT, with propositions to switch to Internet enabled phones and service !

In addition, traffic figure suggest further exposure to churn, through audience figures for Vodafone customer base on Telecom related sites.

Top 10 most visited sites by Vodaphone customer base , UK 12/01

Rank	Domain	Unique visitors (000)	Displays (000000)	Reach (%)	Target Reach (%)	Days per User	Sessions per User	Duration (min) per User	Unique Pages per User	Displays per User
1	**genie.co.uk**	224,13	8,97	1,50%	7,60%	3	3,4	**20,2**	18,5	**40**
2	**bt.co.uk**	202,02	2,01	1,40%	6,80%	1,5	1,4	9,3	7,7	9,9
3	**vodafone.co.uk**	123,54	0,93	0,80%	4,20%	1,2	1,2	7	6,1	7,5
4	**carphonewarehouse**	103,82	1,06	0,70%	3,50%	1	1,1	6	7,3	10,2
5	**boltblue.com**	87,09	2,26	0,60%	2,90%	1,6	1,9	17,6	14,3	25,9
6	**ringtones.co.uk**	60,14	0,39	0,40%	2,00%	1,2	1,2	5,8	5,9	6,5
7	**yourmobile.com**	55,15	0,57	0,40%	1,90%	1,2	1,2	4,8	7,4	10,4
8	**dialaphone.co.uk**	50,21	0,5	0,30%	1,70%	1,4	1,4	3,8	6,5	10
9	**onetel.co.uk**	48,55	0,56	0,30%	1,60%	2,4	2,9	4,8	6,4	11,6
10	**nokia.com**	47,73	0,66	0,30%	1,60%	1	1	11,7	10,7	13,8

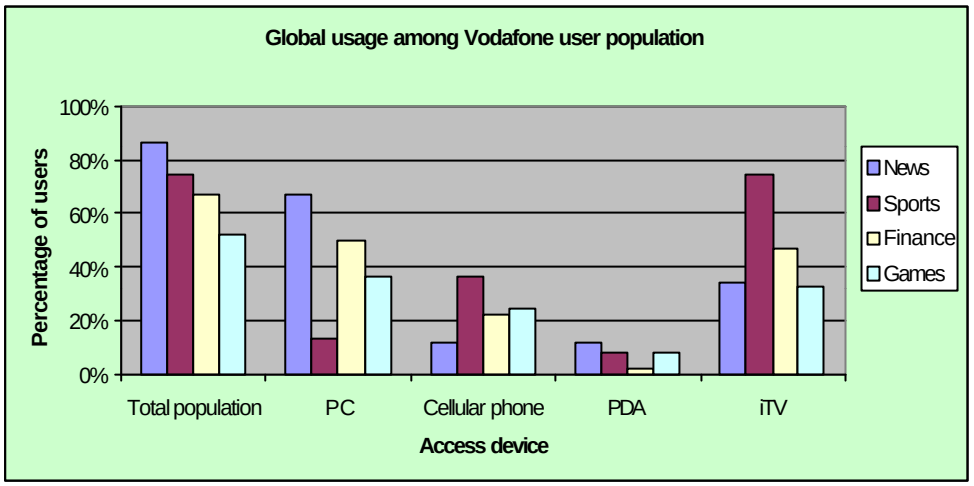
Again, Vodaphone customers, specifically 7,6% of customer base, have seen 40Million pages on Genie, BT 's portal, spending an average of 20mns on the site !!
At the same time, less than 5% of Vodaphone customers have visited Vodaphone 's site over the period

Complementary tracking, through the WIMI project, will determine effective impact of such campaigns on churn.

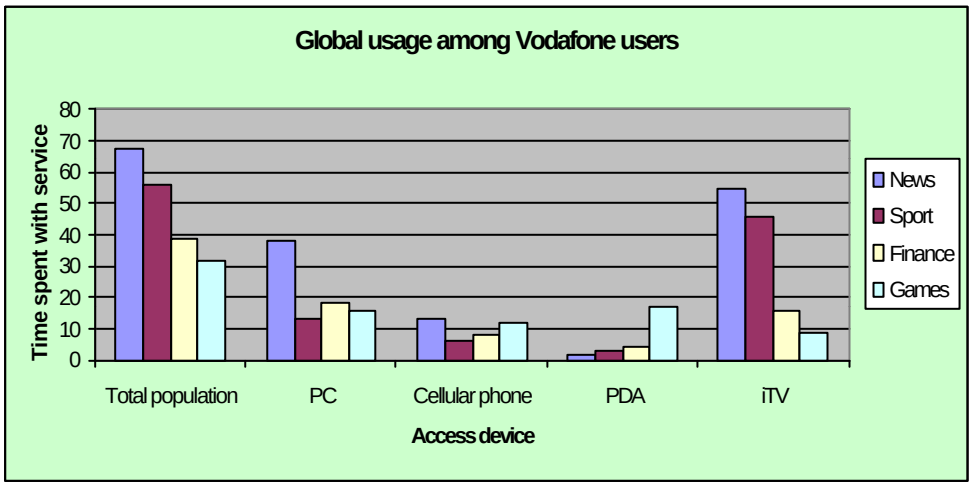
2. Potential report from WIMI project with Vodafone customer base.

Based on a combined measurement of the panel activity on all connected devices (PC, Phone, PDA, iTV), analysis can initially focus on type of content that best represent the consumer experience and the most relevant between content and device.

Such a report could typically look like these ones :



Focus is on reach of specific content : News, Sports, Finance or Games. News and Finance appera to be big on PCs, while Sports content is more significant on Cellulars
In addition, focus on time spent per content will indicate potential revenue scheme.



In the present situation, News would still be big on TV, while Sports content has to be improved to generate airtime revenue on Cellulars. It seems likely Sports content should offered initially on with price/piece of news for Sports on cellulars, until video is available to justify lengthier time spent for action displays or replays.

Addendum B

Partners in WIMI as of March 28, 2002

Arthur D Little
Kabira Technologies
Sony-Ericsson (*)
Hewlett-Packard (*)
Microsoft (*)
NetValue
Nokia (*)
Oracle (*)
Siebel Systems (*)
Sun Microsystems (*)

(*) : *to be confirmed*

About Arthur D Little

Founded in 1886 in Boston by a pioneer chemist and MIT professor, Arthur D. Little was the world's first professional management consulting firm. Ever since its creation, it has proved able to evolve and adapt with a constant focus on answering our clients' needs and challenges and creating true partnerships with business leaders.

Today, the firm has over 1200 employees worldwide. Arthur D. Little's global leadership in management consulting is embodied both by its size and global presence, and by its innovation methodology, demonstrated by numerous standard-setting publications as our latest GPRS study "Slowly but Surely" co-published with Exane, one of Europe's leading independent brokers.

The pioneer spirit of its founder is still a strong feature of Arthur D. Little today. Our constant objective is to create value for our clients, placing innovation and creativity at the heart of our recommendations and fostering the use of new technologies and next generation processes.

With 400 professionals, the TIME practice (Telecommunications, Information, Media and Electronics) has unrivalled expertise in strategic and technological assistance of leading telecom players. Arthur D. Little helps major telecom operators, government agencies and equipment suppliers in the completion of their most sensitive projects. With a strong presence in Europe, the practice has gained a true and precise knowledge of the sector and of its main players.

During the last few months, Arthur D. Little has assisted several major European mobile telecom operators in defining next generation mobile data offers and services.

Further information is available at www.adlittle.com.

About Kabira Technologies

Kabira Technologies provides software solutions for convergent network services that are fully integrated across network, operational and business systems. Kabira's solutions include:

- Provisioning *&* Service Activation
- *x*DR Mediation for GSM, PSTN, CDMA, WCDMA, CDMA2000, SMS, GPRS, EDGE, 1xRTT
- IP Mediation for IPDR, MPLS and IP layered services
- Network Application Integration (NAI/EAI) and OSS (Operational Support Systems)
- Frameworks for Pre-Paid Services, Churn Management & Revenue Assurance
- New Service Creation on the Kabira Infrastructure Server

By providing the combined power of packaged frameworks with custom business logic, we give our customers flexible solutions that meet their exact technical and competitive challenges. With more than 50 customers in 16 countries, Kabira's solutions are proven to scale to millions of users and are designed for continuous modification directly from high-level models and frameworks. Kabira has delivered 'real-time to market' solutions for customers and partners including leading companies such as: Alcatel, Ameris, Cap Gemini E/Y, Digital Island, E*Trade Securities, Energis N.V., France Telecom, Lucent Technologies, Noos and TAL. Kabira offers solutions to providers of 2.5G, 3G wireless, 802.11b, optical fiber, broadband, xDSL, IP layered services, distributed storage, content delivery networks and other convergent services.

Further information is available at www.kabira.com

About NetValue

NetValue, a global leader in Internet intelligence, delivers unprecedented insights into online user behaviour, e-business, Internet trends and activity, by incorporating its superior echnology and research methodology.

NetValue provides online and offline insights into consumer behaviour, which help companies improve their strategy and maximise their revenues. NetValue is the only global company to offer the complete picture of Internet usage.

NetValue's technology provides an unparalleled flexibility and scalability to customise offerings and tailor products to meet clients' specific business needs. It delivers the greatest depth and breadth of protocol measurement, capturing all Internet protocol activity including: web, email, chat, audio, video, games, instant messaging etc.

Founded in France in 1998, NetValue has operations in the UK, France, Germany, Sweden, Spain, Italy, Denmark, Norway, US, Hong Kong, Singapore, Korea and Taiwan. NetValue clients include AOL, Freeserve, BBC, Tesco, NatWest, Orange, Mastercard, Procter & Gamble, Deutsche Bank and Morgan Stanley Dean Witter.

Addendum C

I-Mode Launch Announcement, March 10, 2002

KPN Mobile group will start introducing i-mode in Europe today (March 13, 2002). i-mode is the successful formula developed by NTT DoCoMo for mobile data services. It combines a user-friendly mobile handset (with colour display and special ring tones) with an attractive array of services and e-mail.

In Germany, customers of KPN Mobile's subsidiary E-Plus can sign up for an i-mode handset and subscription from 8 March. i-mode will go on sale at German retail outlets on 16 March, 2002.
E-Plus announced at a press conference in Dusseldorf today that the NEC i-mode handset (N21i) will sell at EUR 249. A monthly i-mode subscription will cost EUR 3. The price of services provided by content partners will range from EUR 0 to EUR 2 per month.

In the Netherlands, KPN Mobile is nearing completion of its final i-mode user trials. i-mode will be available in the shop from mid April. Further details about the conditions under which i-mode will be introduced to the market follow at the beginning of April.

In Belgium, subsidiary KPN Orange will start offering i-mode in June after rebranding to BASE.

The European launch of i-mode is the result of intensive co-operation between KPN Mobile, NTT DoCoMo, content partners and mobile handset manufacturer.

With i-mode, users are able to e-mail and access highly diverse information and service offerings via their mobile handsets, including news reports, weather forecasts, transport/traffic information, sports news, leisure and fun/gaming. KPN Mobile Group has concluded agreements with more than 100 national and international parties for the supply of i-mode-specific services in the three countries.

Content partners include the Royal Dutch Automobile Association (ANWB), the daily newspaper De Telegraaf, VI Planet Voetbal (soccer news), Belbios (cinema), 9292 OV Travelinfo, Intermediair (job vacancies), TMF, Rabo Bank and Photoplay (gaming), VIA Michelin, Meteoplaza (WNI), Spiegel online (news magazine), Kicker online (soccer news), Deutsche Bahn (German Railways), Phenomedia (gaming) and Falk Online (Route Planning).