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Mobile is transforming our lives. The ways in which we work, communicate, shop, and even rest, have been altered for good. Mobile technology is disrupting existing businesses and creating tremendous opportunities for new players, forcing current incumbents to change the way they operate their companies. Opportunities are being shaped by continuously evolving connectivity, devices, hardware and software, all of which are introducing capabilities that were recently unthinkable. To keep up with the pace of change, companies and executives increasingly want to understand the nature, the mind, and the attitude, of the modern mobile consumer.

• What are the most common reasons for choosing a mobile device?
• What activities are people doing on their devices and what opportunities does this bring my business?
• How and where are Dutch consumers choosing to connect?
• How likely are they to adopt 4G in the next 12 months?

To try to understand these and other questions Deloitte has for the third time conducted the Global Mobile Consumer Survey – an annual snapshot of the mobile consumer. The survey offers insights from 37,600 respondents in more than 20 countries.

This report brings you the Deloitte perspective on the Dutch mobile market anno 2013. It includes insights from over 2000 respondents from the Netherlands enriched by international comparisons, advanced analytics, and extensive Deloitte research, as well as, early reactions from key players in our local Dutch marketplace. Should you wish to engage in conversation with us, or explore our extensive data on the mobile behaviour – please visit us online or contact us directly.

Daan Witteeveen
TMT Industry Leader

Stephen Ward
Telecom Partner
Executive summary

On the go is on the grow - The Dutch own 4.3 mobile devices per head

Instant messaging catches up with SMS

75% of smartphone users in the Netherlands use Wi-Fi to connect

Wi-Fi is popular because consumers see it as cheaper, faster & more efficient

Escaping bill shock through WiFi which is cheaper and faster & more efficient

Wi-Fi is popular because consumers see it as cheaper, faster & more efficient

Respondents likely to subscribe to LTE in the next 12 months (developed countries where LTE is commercially available)

59%

24
35
17 36
53% Very likely
18 6
24%
14 5
19%
13 4
17%
13 3
16%
3 12
15%
3 11
11%
Global Mobile Consumer Survey 2013 – Netherlands

MOBILE BANKING

as a daily-routine activity

28% OF DUTCH TABLET OWNERS BROWSED RETAILER WEBSITES IN THE PAST WEEK

14% of Tablet users have used their tablets to stream video in the past week…

ESCAPING bill shock through WiFi which is CHEAPER and FASTER & MORE EFFICIENT

SMART SMARTER

69%

What’s up Spain
Singapore
Portugal
UK
France
Belgium
Germany
Finland
Netherlands
South Korea
Japan

10

On the go is on the grow - The Dutch own 4.3 mobile devices per head

5

4,3
4,2
4,3
4,5
4,5
4,7
5,4
5,4
5,9
6,8
7,2

.. even as devices continue to get smarter

Mobile banking as a daily routine

Wi-Fi is popular because consumers see it as cheaper, faster & more efficient

Retail browsing on tablets drives eCommerce

28% OF DUTCH TABLET OWNERS BROWSED RETAILER WEBSITES IN THE PAST WEEK

14% of Tablet users have used their tablets to stream video in the past week…

“Waiting for 4G”

4G adoption is expected to grow…

Respondents likely to subscribe to LTE in the next 12 months (developed countries where LTE is commercially available)

Respondents that own / have access to device

Smartphone ownership Tablet ownership

82% 32%
79% 42%
72% 51%
58% 45%
37% 59%
42%

Overall

18-24 25-34 35-44 45-54 55+

IRL

Retail browsing on tablets drives eCommerce

4G/LTE phones are too expensive

11%

I do not know what 4G/LTE is

11%

It is too expensive

30%

I am happy with the speeds I receive

25%

My existing contract is not up for renewal

13%

5%

11%

11%
Devices
The addiction shows no sign of stopping
Nine devices per Dutch home, leading in tablet adoption

For a product that was once thought to have no mass market potential\textsuperscript{1} it is remarkable how ubiquitous mobile devices have become. Mobility continues to transform everyday lives of consumers in countless ways. Certainly, many will look back on 2013 as a key inflexion point in the evolution of the telecommunications sector: the year in which global smartphone shipments overtook feature phones, and tablet shipments surpassed PCs\textsuperscript{2}. In fact, the revenues generated from sales of smartphones and tablets are due to soon overtake those of the entire consumer electronics category\textsuperscript{3}.

Dutch consumers are surely no strangers to this “mobile revolution” and now own, on average, 4.3 mobile devices, which adds up to nearly 9 mobile devices in a typical household.

Despite numerous predictions of its imminent demise\textsuperscript{4}, the humble laptop still remains the most popular device among survey respondents. While Dutch laptop sales (1.7 million units in 2012\textsuperscript{5}) are significantly lower than smartphone sales (2.3 million consumer units in 2012\textsuperscript{6}), 69% of the respondents reported owning, or having access to, a laptop. This can be attributed to the large installed base from the PC era and its irreplaceability in terms of “content creation” when compared with tablets or smartphones that are primarily designed for “content consumption” and communication.

Figure 1: Respondents that own / have access to device (%)

Source: Deloitte Global Mobile Consumer Survey Netherlands, July 2013
Base: Total respondents 2,009
Meanwhile, smaller devices are catching up. Smartphone ownership has exceeded 50% in most developed countries, with Spain and the UK leading in Europe. The Netherlands follows with its 59% smartphone ownership rate and outperforms Germany, France, Finland, Belgium and even the United States.

The Netherlands also has a significant 42% tablet ownership that puts it ahead of all its survey peers in Western Europe. Its tablet leadership is also noteworthy in comparison to other developed countries participating in the survey, as only the Singaporean respondents have reported higher tablet ownership, putting the Netherlands in second place worldwide.

“MOST ARTICLES WRITTEN ABOUT THE POST-PC WORLD ARE STILL WRITTEN ON A PC.”

(Paul Lee, Deloitte TMT Research)

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<table>
<thead>
<tr>
<th>Device</th>
<th>Netherlands</th>
<th>Singapore</th>
<th>South Korea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smartphone</td>
<td>51%</td>
<td>86%</td>
<td>85%</td>
</tr>
<tr>
<td>Tablet</td>
<td>42%</td>
<td>44%</td>
<td>36%</td>
</tr>
</tbody>
</table>

Source: Deloitte Global Mobile Consumer Survey 2013
Smartphone addiction
In fact, half of the Dutch survey participants responded that they did not pay for their phone, which is a similar rate as that in other countries with high smartphone ownership, such as the UK (54%) and Spain (53%). In contrast, product bundling in Belgium was forbidden by law between 2007 and 2009 and prevented contract bundling offering subsidised handsets, which slowed down smartphone adoption.

The high ownership rates for smart devices are the result of explosive growth in recent years. Compared to last year, most survey countries have experienced double-digit growth for smartphones and even triple digit growth for tablets – an incredible performance especially considering that these are markets where practically everyone already owns a mobile device.

The high smartphone ownership sets the Netherlands apart from its closest continental neighbours like Belgium, France and Germany, where the majority is still using older, standard phones. The faster shift in the Netherlands from standard phones to smartphones can be attributed to the wide adoption of operator-subsidised phones, together with the post-paid contract model being the standard in the Dutch market. This combination allows consumers to replace their devices every one or two years at lower upfront costs and lets consumers purchase data bundles, which gives them greater freedom to take full advantage of internet applications on smartphones.

Contrary to the Dutch smartphone market, which is essentially a replacement market for standard phones, high tablet ownership can be explained by different factors. Partly, it is a result of conditions such as high levels of internet connectivity and wealth in the Netherlands. Further, high smartphone penetration has made consumers familiar with apps and other capabilities offered by smart devices. This has helped position tablets with their larger screens as a more comfortable alternative for app usage, for example for activities like reading online newspapers.
Older generation stealing a march on tablets
Looking at the device ownership rates among different age categories, the survey results reveal that smartphone ownership trails down with age. Given the high level of ownership in the younger segments, these smartphone owners already form a replacement market, with the real opportunity for new sales growth residing with older consumers. Their sufficient disposable incomes, high standard phone ownership and high average age of phones (more than 2 years11) make the 55+ category an interesting target segment for both smartphone manufacturers and retailers.

Conversely, the highest levels of tablet ownership are concentrated around the age groups in the middle. This is consistent with the finding that higher tablet penetration is found among those with higher income levels. Tablets could also appeal to older demographics as a result of their ease of use and because they provide simpler access to the internet than a PC. At the same time, the younger segment is relatively underserved by the tablet, as high prices deter younger consumers with lower income levels. Therefore, device manufacturers and retailers could target these groups with more affordable options, while offering more expensive types to older target groups.

Figure 3: Respondents that own / have access to device (%)
Smartphone tops the shopping list, early interest in “wearable computing”
In 2012, more than 2.3 million consumer smartphones were sold in the Netherlands and sales are expected to reach 2.6 million in 2013. Despite the relatively high level of smartphone ownership, 15% of respondents intend to buy a smartphone in the coming year, followed by the laptop and the medium tablet. Surprisingly, the standard phone appears fourth on the list as a planned purchase for 10% of respondents, in line with the Gartner estimate that around 1.4 million standard phones will be sold in the Netherlands in 2013.

Despite being hailed as the ‘next wave’ of innovation, wearable computing, including smart glasses and smart watches, is notably low on the planned purchase list of those surveyed but rising. There is still limited availability and awareness of these devices but specific marketing campaigns will change this in 2014. Contrary to smartphones and laptops that are modern versions of devices that have long existed in the technology realm, glasses and watches have traditionally been perceived as fashion items and will require greater adjustment from consumers.

Hybrid device strategies start to emerge
Manufacturers are also trying to combine a variety of features and keep experimenting with different device configurations. That has resulted in melding distinct types of devices into ultrabooks or laptops with touchscreen and removable keyboards, blurring the distinction between different device types and going against the late Steve Jobs’ opinion that devices such as smartphones and tablets have a distinct and complementary nature. Despite Jobs’ view, the survey results indicate that there is room for these devices in the market, given high interest and sales figures for large smartphones (also called ‘phablets’, a planned purchase for 5% of survey respondents) or for smaller tablets (a planned purchase for 11% of survey respondents).

Figure 4: Respondents that plan to purchase the given device in the next 12 months (%)
Finally, the cannibalization effects between devices are not as straightforward as one would expect. When looking at purchase plans of respondents with multiple devices, it is clear that standard phone owners consider buying a smartphone, but smartphone owners will not return to a standard phone. However, this is not the case for the laptop and tablet – tablet owners are almost as likely to buy a laptop as laptop owners are, indicating that these two devices are not in direct competition. This is a consistent finding in the Netherlands and wider. This is further supported by respondents’ answer around combined usage of these devices – two thirds of the respondents having both laptop and a tablet reported increased or unchanged usage of laptop after tablet purchase, while only one third reported using their laptop less.

Figure 5: Respondents that are likely to purchase the given device in the next 12 months (%)

Source: Deloitte Global Mobile Consumer Survey Netherlands, July 2013
Base: Standard phone owners (954), smartphone owners (1193), tablet owners (836), laptop owners (1390)
Brand and reliability are still key reasons to choose device

Reliability and brand are the top influential factors for smartphone and tablet purchasing decisions across all consumer groups, which is consistent among the surveyed countries. These factors significantly outweigh the device purchase price—which is only the fourth important purchasing factor for tablets and is even absent in the top-10 for smartphones. The latter can be explained by the widespread adoption of device subsidies in the Dutch smartphone market, where the device price is hidden in the cost of the tariff. However, even the cost of the tariff is significantly less important than smartphone reliability, brand, operating system, design and quality of touchscreen, making customers relatively price insensitive.

Design is a key factor for the younger segments, as these consumers are often conscious of trends and peer opinions. In fact, these respondents were the only ones to indicate that their device purchase was influenced by a friend having the same device. Furthermore, younger age groups are more sensitive to the cost of the tariff and the fact that the device is a top brand or has recently appeared on the market.

The older groups are generally less choosy than the younger groups and follow general purchasing criteria, such as reliability and brand, which are commonly present for all groups. The most important outliers are the size of the phone (possibly connected with eye health among older consumers) and the cost of the device, as they also usually have standard phones that are less likely to be subsidized than smartphones.

Source: Deloitte Global Mobile Consumer Survey Netherlands, July 2013
Base: Respondents that have standard phone as main phone (738) or smartphone as main phone (1079), respondents that own / have access to a tablet (836)
Figure 7: Respondents that consider given factors important when choosing their phone, by age (%, factors with remarkable differences between age groups only)

Source: Deloitte Global Mobile Consumer Survey Netherlands 2013
Base: All respondents who use a phone (1874) by age group 18-24 (209), 25-34 (324), 35-44 (393), 45-54 (349), 55+ (598)
Surprisingly, the age differences for varying criteria are far less visible when looking at tablet purchasing behaviour. Even the availability of applications and content, which is a factor that differs greatly for phone purchasing, is a relatively stable factor for tablets. This can be because the older respondents that are purchasing tablets are already educated about tablet features and the importance of apps, and consciously choose for a particular tablet model based on the range of applications this model offers.

Brand reality: Samsung leads in volume, Apple in loyalty and Nokia still relevant

Despite Nokia’s declining global market share, it still accounts for around 20% of the installed base of phones among survey respondents in the Netherlands, primarily among the older age groups. Many Nokia owners have yet to upgrade since the brand’s golden era and almost half of standard phone users still have Nokia devices. With increasing positive noises over the Lumia range of phones combined with Microsoft’s marketing power, an opportunity exists in our view for Nokia to expand its presence in the smartphone market with its loyal 45+ customer group.

Figure 8: Main phone and tablet brands share in installed base (%)

Source: Deloitte Global Mobile Consumer Survey Netherlands 2013
Base: All respondents who use a phone (1874) and have indicated standard phone (732) or smartphone (1142) as their main phone, all respondents who use a tablet (836)
While Nokia still has its share in the standard phone market, Samsung has become the absolute leader in the smartphone installed-base. When asked about their most recent device switch, responses from participants indicate that Samsung has captured ownership shares from practically all device manufacturers except for Apple and HTC. This could be attributed in part to the significant advertising budget of the brand which has helped to generate awareness.

The second most popular smartphone brand is Apple, accounting for around one fifth of the smartphone installed base. The segmentations based on the survey responses show that Apple phone owners are generally wealthier, younger and more educated than owners of Samsung or Nokia phones.

Source: Deloitte Global Mobile Consumer Survey Netherlands 2013
Base: All respondents who use a phone of Apple (242), Nokia (400) or Samsung (757)
Despite Samsung’s success with smartphones, the tablet market is still dominated by Apple. In fact, owners of Samsung phones are equally likely to have an Apple or Samsung tablet, while Apple phone owners in our survey group rarely choose Samsung tablets. Of those who own an iPhone, about 50% also own an iPad, but only a very small fraction (4%) owns a Samsung tablet. On one hand this is good news for Apple, but the recent uptake in Android tablet sales is reminiscent of the early smartphone market in which the innovative iPhone laid the foundation for other device manufacturers to step in and capture market share.

Figure 10: Respondents who own the device, overlap shows what part of them own both devices

Source: Deloitte Global Mobile Consumer Survey Netherlands 2013
Base: All respondents who own a phone of Apple (342) or Samsung (757) and tablet of Apple (345) or Samsung (212)
Note: 1 – percentage of iPhone owners, 2 – percentage of Samsung phone owners
How to read and interpret

- The switching behaviour for standard phone and smartphone brands is visualised by a chord diagram, which represents the installed base shares of different brands and the switching behaviour of customers between these brands.
- The circle is split up into 8 brands with the arc length of each group scaled to the current brand’s market share within survey respondents. The percentages along the outer rim of the chord diagram give the share-per-brand. This shows that Samsung dominates the installed base with a 41% share, Nokia is a surprising second with 20%, and Apple is third with 13%.
- The chords between the arcs visualise the switching behaviour of the respondents between brands in both directions. For example, the big dark blue chord connecting Samsung and Nokia in the lower left section shows the part of respondents that moved from Samsung to Nokia and from Nokia to Samsung. Clearly, the figure shows that Nokia has lost its installed base share to Samsung, as 12% of all respondents that used to own a Nokia now own a Samsung. At the same time, only 2% of the Nokia owners previously owned a Samsung.
- To clarify which brand has been the net gainer, each chord has the color of the brand that managed to gain more customers from the connected brand than it has lost to this brand. With this in mind, we can immediately see that Apple is a true net gainer; all its chords are ‘Apple grey’.
- There are also chords that connect each brand to itself. These ‘hill-like’ chords represent the respondents who did not switch brands, but stayed loyal to their brand.
**Samsung: Mass market leadership**

Samsung is clearly dominating the mobile phone installed base, with more than 40% of respondents currently using a Samsung phone. Besides being a net gainer from most other brands, Samsung has also been very successful in keeping their customers loyal; almost half of the current Samsung share had a Samsung as their previous phone. According to our survey results, Samsung owners, while also focussed on brand and reliability, pay more attention to purchasing criteria like device price, cost of tariff, the quality of touchscreen, phone size and battery life, than Apple users. These factors could be the most important differentiators contributing to Samsung’s success.

**Apple: Masters of brand loyalty**

All chords connected to Apple are ‘Apple grey’, thus showing that Apple has been able to take more customers from all other brands than vice versa, making it the most successful net gainer of all brands in this report. Additionally, more than a third of the current iPhone owners also previously had an iPhone, implying significant loyalty among Apple owners. This is in line with the finding that around one fifth of Apple owners responded that they bought their device because they have other Apple devices like an iPad or iPod. The ones having an iPhone pay significantly more attention than other brand owners to purchasing criteria like the handset brand, design, new model on the market, broad range of available apps, streaming content to other devices, and the fact that most of their friends have the same device.

**Nokia: Still second largest in the installed base**

Nokia is still the second-largest brand in the mobile phone installed base with a 20% share among respondents. A very large fraction of these phones belong to the feature phone category. Nokia is a net loser compared to all other main brands. The most dramatic loss is to Samsung; when comparing sizes, Nokia lost more than half of its current share to Samsung alone. Compared to other brand owners, Nokia owners were particularly interested in the device price when purchasing their latest devices, in addition to the factors applicable to all brands like reliability.
Bottom line
Device penetration is expected to continue to grow in the coming years.

The key opportunity for operators is to encourage consumers to put SIM cards into more of these devices, and upgrade to multi-gigabyte shared bundles. Challenges include managing and monetising increasing amounts of data traffic, and accommodating a potentially greater load on the customer care required for devices that operators neither supplied, nor provisioned.

In an environment that is inherently and increasingly complex, operators may also need to consider how they can help consumers to better integrate and control their portable devices. The more devices a consumer uses to connect to the Internet, the higher their exposure to identity theft, fraud and malware. The provision of identity management and security solutions may represent a considerable opportunity for operators. Furthermore, solutions that unify the user experience across all devices and types of connectivity may appeal to consumers.

From a consumer perspective, manufacturers and retailers should keep in mind that reliability and brands of devices remain key factors influencing purchase. Thus device makers need to keep investing in quality and brand development to maintain saliency even while ensuring adding a competitive price and new features to these devices.

Manufacturers should also pay attention to constant innovation by introducing new types of devices, such as phablets, wearables or even wireless chargers. Although there is still no historical evidence of success of such devices, device evolution shows that the first movers set the trend and can be successful in “blue ocean” market segments, for example Apple currently controlling the lion’s share of the tablet market.

Furthermore, smartphone manufacturers and retailers should seek ways to tap into the market for older consumers. With reasonably high disposable incomes, high standard phone ownership and high average age of their phones (more than 2 years), the 45+ and especially 55+ categories are interesting target segments for smartphone manufacturers and retailers.

Tablets are now most popular amongst middle-aged people. Market opportunities lie with more affordable models for the young and a more focussed effort to persuade older consumers about the ease of use that these devices offer. Being created as devices for consumption, tablets are also not in direct competition with laptops, which will hold their position as irreplaceable devices for content creation alongside the range of other mobile devices.
“WITH THE CURRENT LEVEL OF TECHNOLOGICAL ADVANCEMENT, IT WILL BE MORE AND MORE DIFFICULT TO PERSUADE CONSUMERS TO BUY NEW DEVICES, AS CONSUMERS WILL BE INCREASINGLY HAPPY WITH WHAT THEY ALREADY HAVE. THEREFORE, THE MARKET WILL TRANSITION FROM A “PULL” TO A “PUSH” MODEL, WHERE DEVICE MANUFACTURERS AND OPERATORS WILL HAVE TO DEVELOP AND “PUSH” NEW SERVICES TO THE MARKET, RATHER THAN WAIT FOR CUSTOMER DEMAND. IN THESE CIRCUMSTANCES, THE MAIN OPPORTUNITY WILL RESIDE WITH THE NEW MOBILE PLAYERS – SUCH AS RETAILERS, CONTENT PROVIDERS, ADVERTISERS AND OTHER PARTIES THAT WILL NEED TO FIND WAYS TO GAIN REVENUES FROM INCREASING POPULARITY OF MOBILE SERVICES”.

Jeroen van Glabbeek, CEO CM
Mobile services
Opportunities expand with right service, right device
Voice and SMS stand the test of time

Voice calls and SMS remain the two most popular applications on phones. However, as mobile devices become more data-centric, the use of applications such as instant messaging, email, social networking, internet search, and online banking is increasing. These even outperform some of the more classic applications that have been available longer on standard phones, such as photography or navigation.

The growth of internet applications is notable as 88% of smartphone-owning respondents reported that they accessed the internet through their device, and, in September 2013, 15% of internet page views$^{21}$ from the Netherlands were using mobile devices$^{22}$. In the near future, more people are expected to access the internet through their mobile devices than via traditional computers$^{23}$.

Figure 11: Top-10 usage purposes of standard phones, smartphones and tablets (% of respective device owners)

Source: Deloitte Global Mobile Consumer Survey Netherlands, July 2013
Base: Respondents that have standard phone as main phone (738) or smartphone as main phone (1079), respondents that own / have access to a tablet (836)
Tablet usage patterns are similar to smartphone usage when disregarding traditional voice, SMS or instant messaging. The most popular applications are email, internet search and social networking. Other significant applications include browsing retailer websites (reinforcing the position of the tablet as a popular choice for online shopping activities), gaming, and banking and payments.

**Instant messaging catches up with SMS**

Today’s consumers are using instant messaging alternatives such as WhatsApp or iMessage to avoid operator costs for SMS. The rise of these applications has been significant and has resulted in almost equal score between respondents using instant messaging and SMS.

Interestingly, SMS use is still relatively high. The primary reason is likely to be the need of respondents to communicate with those who still do not have a smartphone, with those who do not have an instant messaging application on their smartphone, or with those who have a different operating system that does not support particular apps (such as iMessage, which is not supported on Android).

**Messaging reasons to be cheerful**

Furthermore, the remaining popularity of SMS could be due to its role in voting on popular television programs like The Voice, in the Netherlands, as well as a variety of promotions for retailers of all kinds, geared toward the tween and teen markets. In terms of personal messaging, however, instant messaging is rapidly growing in most demographic groups and has resulted in a steady decline of SMS traffic in the Netherlands.
**Video calls surpass VoIP and take off on large screened tablets**

Surprisingly, the ‘over-the-top’ alternatives (those that literally run on top of the network) have not yet gained success for voice. For example, Voice-over-IP (VoIP) calls remain unpopular on mobile – only 3% of the respondents with a smartphone and 5% of the respondents with a tablet are using their devices for VoIP services. While instant messaging services suffer from no latency related issues, the same is not true in consumers’ experience with closed platform VoIP services. Voice is also seen as a hygiene factor, and consumers are unwilling to make any compromise with the same. Furthermore, due to lowering international termination rates, operators have also reduced tariffs for international calling, which has impacted the uptake of OTT applications. 

While voice calls and messaging are functional, and often also between family members, video calls are more regularly emotional experiences and used to communicate with family or loved ones. These calls seem to be finally taking off. Thirteen percent of the tablet owners participating in the survey claim to have made video calls in the last week. Compared to smartphones, the tablets are more often used at home, with predominantly Wi-Fi – the fastest common wireless internet connection besides 4G. The Wi-Fi bandwidth enables data-hungry video calling, which requires both upload and download capacity. And, being at home, the device owners choose the device with the larger screen and the best camera, as being most comfortable for video calling.

In recent years we have seen an increase in mobile screen sizes, both for smartphones and tablets. In the coming years, Wi-Fi alternatives like 4G are expected to increase mobile internet speeds. With this growing screen size and the quality of data networks, video calling could soon become a more widespread way to communicate among the Dutch population.

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**Figure 12: Communication usage of smartphones and tablets (% of respective device owners)**

Source: Deloitte Global Mobile Consumer Survey Netherlands, July 2013
Base: Respondents that have smartphone as main phone (1079) and respondents that own / have access to a tablet (836)
“THE POPULARITY OF MOBILE MESSAGING VERSUS THE LIMITED ADOPTION OF VOICE SERVICES (VOIP) IS LOGICAL. CONSUMERS EXPERIENCE NO LATENCY ISSUES WITH INSTANT MESSAGING AS OPPOSED TO MOST CLOSED USER VOIP SERVICES. HOWEVER, THE INTERNET INFRASTRUCTURE TODAY IS PERFECT FOR “OPEN USER” VOIP APPS (CALLING VIA AN APP TO ALL LANDLINES AND MOBILES), AND I BELIEVE THAT IN THE COMING YEARS, USERS WILL CONTINUE TO ADOPT SUCH SERVICES IN LARGE NUMBERS PERSUADED BY COMPARABLE PRODUCT OFFERINGS (LIKE QUALITY AND RELIABILITY) AND LOWER PRICES.”

Hans Osnabrugge (CEO, RingCredible)
Always on and connected to social networking

Social networking and browsing news and sports sites are far more popular than other media consumption activities like mobile TV and mobile radio on phones and tablets. Both of these activities represent a disruptive substitute to the traditional media like newspapers, radio and TV in the news domain. The ability of social media to combine personal communication with personalised real-time news helps account for their popularity.

Two observations are notable with respect to social media and news sites. Firstly, social media usage decreases with the age of smartphone owners, but interestingly, for tablet owners, usage is relatively stable between 18 and 54 years of age. This implies that social media are not a youngsters’ domain anymore and gaining in popularity with the older, yet technology savvy, groups.

Secondly, the usage of news and sports sites is concentrated around the medium age groups. This is most likely because the medium age groups were used to reading newspapers and have transferred this habit to their smart devices, looking for a newspaper-like alternative, while the younger groups are receiving their news from social media, and the older groups, still prefer a traditional printed newspaper.

Figure 13: Device owners that have performed online social media activities or visited news and sports sites on their smartphones and tablets in the last 7 days, by age group (%)

Source: Deloitte Global Mobile Consumer Survey Netherlands 2013
Base: All respondents who use a smartphone by age: 18-24 (178), 25-34 (300), 35-44 (215), 45-54 (250), 55+ (237), all respondents who use a tablet by age: 18-24 (68), 25-34 (139), 35-44 (211), 45-54 (167), 55+ (250)
Tablets starting to drive mCommerce, but still lagging our neighbours

The fourth most popular tablet activity is browsing retailer websites. In all surveyed countries, significantly more tablet users were browsing retailer websites compared to smartphone users. In countries like the UK, the share of tablet owners browsing retailer websites has even reached 50% of all tablet users, indicating this as a common daily action.

Even though the Dutch appear to be browsing retailer websites less than the British or the Germans, there is a significant potential for both traditional and online retailers here. Websites and applications tailored to tablet screens and providing high usability can offer competitive advantage compared to retailers who focus on desktop-native webshops or smartphones. This is especially critical for the Dutch websites to maintain their leading position in multichannel – ability to serve customers seamlessly through channels like desktop, smartphone or tablets. And, in combination with the rising adoption of online payments and online banking, tablets could become the next major channel for mobile commerce. Actually, online shoppers have already been reported to be 3 times more likely to make a purchase when shopping with a tablet than with a smartphone.

Figure 14: Standard phone and smartphone owners that have been browsing retailer websites in the last 7 days (%)

Base: All respondents who use a phone: UK (3756), US (1698), France (1825), Spain (1926), Germany (1849), Singapore (2000), South Korea (1929), Netherlands (1874), Finland (923), Belgium (1843) and all respondents who use a tablet: UK (1431), US (624), France (596), Spain (776), Germany (430), Singapore (2000), South Korea (444), Netherlands (836), Finland (201), Belgium (601). Source: Deloitte Global Mobile Consumer Survey 2013
Mobile banking has claimed a space in Dutch consumers’ daily routine
Twenty-eight percent of respondents in the Netherlands are using their standard- or smartphones for mobile banking, the highest number in Western Europe and third highest worldwide after Singapore and South Korea. The Netherlands also has significantly higher levels of sending and receiving money through mobile phones, probably due to the presence of advanced mobile apps offered by the Dutch banks.

Base: All respondents who use a phone: UK (3756), US (1698), France (1825), Spain (1926), Germany (1849), Singapore (2000), South Korea (1929), Netherlands (1874), Finland (923), Belgium (1843)
Source: Deloitte Global Mobile Consumer Survey 2013
The mobile online banking activities are particularly popular among younger smartphone owners, with more than half of them regularly using mobile banking and one fifth of them regularly sending and receiving money. Apple smartphone owners of all age groups are similarly frequent users of mobile banking with 57% using mobile banking versus the 41% of Samsung users. The financial activities are also notably popular on tablets, with one third of youngsters banking on their tablets and one fifth of the middle-aged regularly sending and receiving money.

Online payments are still less popular, but certainly present, which introduces an opportunity for tablet shopping when combined with the popularity of browsing retailer websites as being the fourth most popular tablet activity reported by survey respondents.

Figure 16: Device owners that have performed online financial activities on their smartphones and tablets in the last 7 days, by age group (%)

Source: Deloitte Global Mobile Consumer Survey Netherlands 2013
Base: All respondents who use a smartphone by age: 18-24 (178), 25-34 (263), 35-44 (300), 45-54 (215), 55+ (237), all respondents who use a tablet by age: 18-24 (68), 25-34 (139), 35-44 (211), 45-54 (167), 55+ (250)
First signs of video streaming on tablets … waiting for 4G?

Content consumption activities like listening to music and watching video are still relatively limited on mobile devices. The most popular activity is currently listening to music saved on respondents’ smartphones, which is most frequently present among user groups in our survey.

While listening to music is usually based on files stored on consumer devices, video streaming is the most popular content consumption activity on tablets. Firstly, the tablets provide the bigger screens, which are more suited to watching video content compared with smartphones. Secondly, the tablets are often used at home with a good Wi-Fi connection that allows downloading video content through a faster connection than mobile internet provides. And thirdly, the popular tablet models like Apple iPad are designed in a way that makes video streaming easier than adding the video files through iTunes by connecting to the user’s PC.

Figure 17: Content usage of smartphones and tablets (% of respective device owners)
Despite high device ownership rates and the widespread availability of Internet connectivity\textsuperscript{28}, the Netherlands ranks surprisingly low in terms of device use for TV- or movie watching. This is even more notable when combined with the high rate of standard TV viewership\textsuperscript{29}. Although there may be various reasons for this, one of the possible explanations could lay in still limited adoption of 4G internet that would enable higher rates of video usage. Among the countries with highest 4G adoption among survey participants, there is also higher video streaming usage, which could imply that 4G is a key enabler for video streaming (along with consumer friendly tariffs and wide availability of mobile video streaming services).

“CONSUMER BEHAVIOUR IS CHANGING RAPIDLY AS CONFIRMED BY THE DELOITTE SURVEY. WE BELIEVE THAT INNOVATION IS CRUCIAL IN THIS CHANGING MARKET AND WE WILL CONTINUE TO ADAPT TO THE CHANGING NEEDS. WITH THE LAUNCH OF OUR NEXT GENERATION PLATFORM HORIZON, WE OFFER OUR CUSTOMERS THE ABILITY TO ACCESS CONTENT WHERE THEY WANT, HOW THEY WANT.”

Robin Kroes, VP Strategy, UPC Netherlands

Figure 18: 4G adoption vs. video streaming on mobile phones (%)

<table>
<thead>
<tr>
<th>Country</th>
<th>% respondents streaming video on their phone</th>
<th>% respondents that have 4G</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Korea</td>
<td>30</td>
<td>40</td>
</tr>
<tr>
<td>United States</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>Singapore</td>
<td>25</td>
<td>35</td>
</tr>
<tr>
<td>Netherlands</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Germany</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>Finland</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>Belgium</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>UK</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>France</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Spain</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Germany</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Finland</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Belgium</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>UK</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>France</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Spain</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Base: All respondents who use a phone: UK (3756), US (1698), France (1825), Spain (1926), Germany (1849), Singapore (2000), South Korea (1929), Netherlands (1874), Finland (923), Belgium (1843)
Source: Deloitte Global Mobile Consumer Survey 2013

Rik Welling (Strategy & Business Development, RTL Netherlands)

“I EXPECT THE MARKET FOR MOBILE APPS TO GROW IN THE COMING TWO YEARS, AS LONG AS 4G OR FURTHER IS NOT DEVELOPED. AS SOON AS 4G IS USED BY THE MASS, THE MARKET FOR APPS WILL SLOW DOWN AND DISAPPEAR IN THE COMING YEARS WITH THE ADOPTION OF HTML 5 ALONG WITH FASTER INTERNET SPEEDS THROUGH 4G. THIS WILL OBVIOUSLY HAVE A PROFOUND IMPACT ON THE MOBILE ECOSYSTEMS RESULTING IN GREATER DEMOCRATIZATION OF THE MOBILE WEB AND EMERGENCE OF NEWER PLAYERS”

Luc Vonken, CEO, Cliq Digital
Content, apps and advertising – monetisation challenges

Consuming media is popular on mobile devices, but consumers are much less willing to pay for it, especially in the Netherlands where three quarters of respondents do not regularly purchase digital content.

Figure 19: Digital content purchasing behaviour. Device owners...

<table>
<thead>
<tr>
<th>Content Type</th>
<th>% of device owners who have purchased digital content in the last month (NL)</th>
<th>% of device owners that have not purchased digital content in the last 7 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upgrades of free apps</td>
<td>10%</td>
<td>80%</td>
</tr>
<tr>
<td>Music tracks</td>
<td>7%</td>
<td>75%</td>
</tr>
<tr>
<td>Games</td>
<td>5%</td>
<td>72%</td>
</tr>
<tr>
<td>Magazines, newspapers</td>
<td>4%</td>
<td>66%</td>
</tr>
<tr>
<td>Online storage</td>
<td>3%</td>
<td>60%</td>
</tr>
<tr>
<td>Music streaming service</td>
<td>2%</td>
<td>52%</td>
</tr>
<tr>
<td>Films and TV content</td>
<td>2%</td>
<td>54%</td>
</tr>
<tr>
<td>Virtual goods for games</td>
<td>1%</td>
<td>52%</td>
</tr>
<tr>
<td>Film streaming/renting service</td>
<td>1%</td>
<td>53%</td>
</tr>
<tr>
<td>Books</td>
<td>1%</td>
<td>45%</td>
</tr>
</tbody>
</table>

Source: Deloitte Global Mobile Consumer Survey Netherlands, July 2013
Base: All respondents who have a smartphone (1193 in NL and 22466 in all countries) and all respondents who have a tablet (836 in NL and 12051 in all countries)
On average, one third of the respondents download apps. The average number of apps per respondent lies between 2-3 apps per month and the price paid between €0.11 and €1.18 per app, depending on the device. Phablets lead in number of average app downloads (3.88 apps per user per month) and large tablets in average app price (€1.18 per app).

Figure 20: Monthly average number of downloaded apps and average spend on apps and other downloadable content (per respondent)

On average, one third of the respondents download apps. The average number of apps per respondent lies between 2-3 apps per month and the price paid between €0.11 and €1.18 per app, depending on the device. Phablets lead in number of average app downloads (3.88 apps per user per month) and large tablets in average app price (€1.18 per app).

Source: Deloitte Global Mobile Consumer Survey Netherlands, July 2013
Base: Graph 1 & 2 Total respondents who have downloaded apps in the last 12 months: Large smartphone (50), Smartphone (914), Large tablet (364), Medium tablet (242), iPhone (209), Android (656)
At the same time, mobile advertising in the Netherlands is still in its infancy. The growth of mobile advertising revenues lags behind consumer adoption and only 6.6% of online display advertising revenue in the Netherlands stems from mobile and in-app advertising. The reason is obvious from our survey results – most ads either get ignored or deleted, and only a small fraction of users actually follows up on the presented ads.

Source: Deloitte Global Mobile Consumer Survey Netherlands, July 2013
Base: All respondents who have a smartphone (1193) and all respondents who have a tablet (836)
Bottom line
Communications remain the main application for all smart devices, but evolve into the over-the-top alternatives. Despite the still low uptake for VoIP and modest take-off of video calling, app developers should explore the possibilities of creating over the top communication apps. Device manufacturers and operating system creators might want to integrate these into their operating systems to increase usability. Mobile operators, on their part, optimize tariffs to compensate declining revenues from traditional services by monetising consumers’ addiction to data in a fair and transparent manner.

Consumers’ increasing preference for converged, connected devices implies a subtle but important shift in usage. When single-purpose, non-mobile devices dominated, the personal computer was typically the hub for storage and synchronisation (usually via USB cable). Though the PC remains an important device, consumers are increasingly storing and synchronising files in the cloud so that they can be accessed from any device. By the close of 2013 it is estimated that there will be 600 million cloud storage subscriptions, expected to double by the end of 2017. This shift from a personal area network (PAN) to a cloud area network (CAN) is likely to be increasingly important to mobile operators. Operators should examine how they can position themselves as more than just broadband service providers. A number of operators have already achieved success in the provision of cloud-centric storage, security and other solutions, with some resulting in a net increase in revenues.

Retailers should target tablets (and not smartphones) as main mobile shopping device in their multichannel strategy; they should also be aware of age differences in adoption of tablets and smartphones and serve segments with tailored offerings. Financial services companies, as well as application developers should take advantage of the mobile banking uptake and tailor their strategies to mobile as main banking channel for the consumer of tomorrow. They should target younger age groups, as those are the ones using mobile banking most frequently, and use the experiences with this group as predictors for mainstream behaviour for the longer term.

Media companies and advertisers should prepare for social media and news sites as competitors of traditional news channels. In this pursuit, the media companies should find their balance in making their content “free” or “fantastic”. Free content could be combined with yet limited mobile advertising offerings or could be a bridge to premium paid content, as upgrades from free apps are the most popular purchase among survey respondents. Premium content should be “fantastic” to appeal to the still marginal yet existent group paying for mobile newspapers and magazines.

The opportunity for banks lies in extending the trust that they have with their customers into newer areas. As, perceived security risks remain a key hindrance to further adoption of the technology, banks must invest in security and data protection. For instance, by strengthening the link between consumers mobile banking “identity” with a specific phone, it can reduce the chances of security breaches. At the same time, banks can invest in notifying consumers on potential fraudulent transactions over new services like instance messaging (apart from SMS) as well as through geo-location services as well as in the future, through advanced bio-metric based security when such features become more common in mobile handsets.
Connectivity
Cheaper before faster
Massive capacity demand in a challenging market

Voice calls and SMS used to account for the lion’s share of the Dutch mobile traffic. Revenues for the mobile operators were proportional to the voice traffic and data usage was marginal. In the hope of gaining additional income from modestly adopted mobile internet services, the carriers chose to attract customers by introducing unlimited internet bundles for a fixed price.

Soon, however, new devices appeared. The introduction of the first iPhone in 2007 brought the new standard of smartphone usability, with a user-friendly browser, mobile apps and even easy to use location-based-services. Mobile data consumption soared, disrupting the SMS services with cheap instant messaging alternatives and leading to a decline in SMS income. At the same time, data revenues remained low. In 2013, the Dutch mobile market has reached negative growth, dramatically shrinking by 6.7% Year-on-Year in Q2 2013.

On top of the traffic surge and disappointing revenues, the carriers’ profits are suffering from the expensive investments in capacity. After the introduction of data hungry, high-end smartphones, the operators soon experienced connection problems that had direct customer impact and required immediate investments. Furthermore, in order to catch up with the demand for the connection speed, operators could not afford missing the 4G licences and ended up spending around €3.8 billion in the 4G license auctions in 2012, a significant amount.

Yet, the crest of the data consumption wave is still far off. Adoption of these mobile devices is growing at a rapid pace and will result in further traffic increase. On top of that, according to Cisco, the data consumption per device will multiply, with a jump from the current 342 MB per month to 2.6 GB for smartphones and a jump from 820 MB per month to 5.4 GB for tablets in 2017. The ownership growth and the increased usage per device are expected to result in multiplicative growth in traffic demand in the coming years.

Figure 22: Growth of Voice, SMS and Data traffic in the Netherlands in comparison with revenue growth (indexed)

Source: ACM report mobile Q1 2013, Q2 2010, Deloitte analysis
In light of these developments, it is a matter of life and death for operators to find new ways to monetise the increasing data demand and to earn back their large investments.

**Escaping bill shock through Wi-Fi**

Our survey results suggest that Wi-Fi remains the primary means of connecting portable devices, including smartphones, across 16 of the 20 countries surveyed. These include markets where LTE (Long-Term Evolution) has been available for over a year.

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**Figure 23: Main internet connection for smartphones (%)**

Source: Deloitte Global Mobile Consumer Survey, developed countries, May-July 2013

Base: Respondents who own a smartphone- Belgium 576, Finland 325, France 724, Germany 723, Japan 516, Netherlands 975, Singapore 1,292, UK 1,847, US 826.
In the Netherlands, according to the survey results, Wi-Fi is by far the most popular connectivity type for mobile internet. It is the first choice even for the smartphone owners with the highest degree of frequent mobile internet usage among all survey participants.

Figure 24: Main internet connection per device (%)
The primary reason for the popularity of Wi-Fi among consumers is to escape costs for mobile internet from the telecom operator – a valid objective since one third of the smartphone owners participating in the survey experienced a bill shock when they ran out of data bundle. The secondary reason for broad Wi-Fi adoption is its quick speed, outperforming the available mobile alternatives like 3G.

Figure 25: Main reasons to use Wi-Fi to connect to the internet instead of mobile operator’s network (2G, 3G or 4G/LTE)

- To save money on my mobile phone bill by not using the Internet as much: 40%
- So as not to use up my monthly Internet allowance from my mobile operator: 35%
- Faster speeds: 26%
- Faster response times (e.g. when browsing): 20%
- The connection is more reliable – it is less likely to stop working every now and then: 19%
- I do not have an Internet tariff on my phone, so I only use Wi-Fi: 15%
- It uses less battery: 7%
- I don’t know, my phone does it automatically: 6%
- Poor or lack of 3G/4G coverage in general: 6%

Source: Deloitte Global Mobile Consumer Survey Netherlands, July 2013
Base: Total respondents who connect to Wi-Fi on their mobile (2013 - 963)
Broad availability of free Wi-Fi puts it into direct competition with mobile internet. While the impact of this on mobile networks would be still limited if Wi-Fi would only be used at home, the survey results also show that Wi-Fi usage is also popular outside the home. At least half of respondents use Wi-Fi when commuting or when out and about, actually stealing the opportunity of mobile internet to shine on these occasions.

Source: Deloitte Global Mobile Consumer Survey Netherlands; July 2013
Base: Total respondents using Wi-Fi to connect to the internet on their mobile (2013) 963
Given that many consumers see Wi-Fi as a free, fast and reasonably widely available option for connecting to the internet, mobile operators are obviously impacted by it. However, for mobile operators it continues to remain a great option to offload the ever increasing data traffic. Further, public Wi-Fi hotspots were indicated by a third of our survey respondents as a service that they would most like to get from their mobile operator.

Source: Deloitte Global Mobile Consumer Survey Netherlands, July 2013
Base: Total respondents showing interest in specific services that are not currently offered by their carrier: 709
Base: Total respondents who would like their mobile carrier to offer specific services: 325

---

### Figure 27: Respondents interest in additional services from mobile provider

<table>
<thead>
<tr>
<th>Q. Which of the services that your mobile operator doesn’t currently offer would you like to be offered?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Wi-Fi hotspots in restaurants, shops etc…</td>
</tr>
<tr>
<td>Fixed line voice calls/landline</td>
</tr>
<tr>
<td>Music streaming services</td>
</tr>
<tr>
<td>Home broadband/Internet</td>
</tr>
<tr>
<td>Pay TV</td>
</tr>
<tr>
<td>I don’t know</td>
</tr>
<tr>
<td>None of these</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q. Why would you like your mobile operator to offer these services?</th>
</tr>
</thead>
<tbody>
<tr>
<td>To reduce the cost of my overall bill</td>
</tr>
<tr>
<td>To reduce the number of different bills that I get every month</td>
</tr>
<tr>
<td>To have a consistent quality of service across services different products</td>
</tr>
<tr>
<td>To have one single point of contact for all these services</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>I don’t know</td>
</tr>
</tbody>
</table>
“ZIGGO RECOGNIZES THE CONSUMER PREFERENCE FOR PUBLIC WI-FI HOTSPOTS IN ORDER TO AVOID HIGH COST FROM THEIR MOBILE OPERATOR, LIKE THE DELOITTE SURVEY CONFIRMS. IN COLLABORATION WITH OUR CUSTOMERS WE HAVE BUILT UP A WIDELY SPREAD, HIGH QUALITY FREE PUBLIC WI-FI SERVICE, BUILDING OUT OUR FIXED BROADBAND CONNECTIONS WITH PRIVATE AND PUBLIC WI-FI CAPABILITIES. IN THE NEAR FUTURE WE SEEK TO FURTHER EXTEND ZIGGO WI-FI SPOTS WITH SMALL CELL 4G SERVICES, LEVERAGING OUR 2.6GHZ WIRELESS SPECTRUM LICENSE.”

Mirko Mensink (Director Corporate Development Ziggo)
4G - ready to take flight in 2014

Despite the slow start - LTE subscriptions currently represent less than three percent of the global 6.6 billion subscribers – globally, the prospect for LTE deployment and adoption is looking promising. As of the end of Q3 2013, a total of 222 mobile carriers had launched LTE networks, with 24 of those launches during the quarter; more are expected to be launched by year-end. Additionally, consumers’ attitude towards the service is markedly positive: according to the Global Mobile Consumer Survey (GMCS) results, 15% of respondents indicate a desire to upgrade to LTE in the next 12 months.

Figure 28: Respondents likely to subscribe to LTE in the next 12 months (developed countries where LTE is commercially available)

Source: Deloitte Global Mobile Consumer Survey, developed markets, July 2013
Base: Respondents that do not currently subscribe to LTE: Belgium 1,799, Finland 866, France 1,749, Germany 1,780, Japan 1,474, Netherlands 1,816, Singapore 1,373, South Korea 1,281, UK 3,646, US 1,254.
In the Netherlands, current 4G adoption is lagging behind most developed countries. In June 2013, only 6% of the survey respondents had a 4G-enabled phone and less than half of them had a 4G subscription, making the current 4G adoption level limited to less than 3% of the survey population.

Looking at the purchasing plans for the next 12 months, the outlook is significantly more positive – around 30% of all respondents are likely to buy a 4G enabled phone and 15% of all respondents that currently do not have 4G are likely to subscribe to it. This implies a rapid increase of 4G adoption in the next year.
Need for careful packaging

However, operators need to carefully consider pricing 4G, as the price is the most popular reason among survey participants not to subscribe to 4G. Other reasons include consumers currently being happy with their speeds, contracts not being up for renewal or lack of awareness of 4G.

From the usage perspective, there is still little understanding of what the “killer app” for 4G is. While Dutch respondents not yet subscribing to 4G would expect slightly increased usage from a range of applications, there was not one “killer” service that significantly stood out.

Meanwhile, when looking at the situation in countries with wide 4G adoption, the potential for video streaming stands out.
Figure 33: Since you started to subscribe to your 4G package, which of the following do you do more frequently through your 4G connection? (results in countries with high 4G adoption)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Singapore</th>
<th>South Korea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watch video</td>
<td>56%</td>
<td>51%</td>
</tr>
<tr>
<td>Check my social networks</td>
<td>35%</td>
<td>28%</td>
</tr>
<tr>
<td>E-mail</td>
<td>47%</td>
<td>42%</td>
</tr>
<tr>
<td>Instant messaging</td>
<td>18%</td>
<td>41%</td>
</tr>
<tr>
<td>Read news</td>
<td>23%</td>
<td>48%</td>
</tr>
<tr>
<td>Navigation</td>
<td>34%</td>
<td>14%</td>
</tr>
<tr>
<td>Play online games</td>
<td>23%</td>
<td>29%</td>
</tr>
<tr>
<td>Download/upload large files as attachments</td>
<td>27%</td>
<td>31%</td>
</tr>
<tr>
<td>Video calling</td>
<td>23%</td>
<td>22%</td>
</tr>
<tr>
<td>Download/upload large photos and videos to social network</td>
<td>32%</td>
<td>23%</td>
</tr>
<tr>
<td>Listen to radio</td>
<td>7%</td>
<td>16%</td>
</tr>
<tr>
<td>Stream music</td>
<td>14%</td>
<td>34%</td>
</tr>
<tr>
<td>None of the above</td>
<td>7%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Source: Deloitte Global Mobile Consumer Survey Netherlands, July 2013
Base: Respondents that have a 4G subscription in Singapore (542) and in South Korea (648)

**Mobile broadband and the nomad**
Moving forward, increased nomadic usage patterns suggest that carriers will need to balance macro and micro cell deployment – with small format cells being better able to service high-speed connectivity in dense urban areas and within buildings. As of the end of 2012, there were 5.92 million macro cells, complemented by 6.02 million micro (pico, femto) cells.

Carriers are expected to focus particular attention on smaller cells, with an additional 1.5 million forecast for deployment in 2014, reaching 2.5 million by 2016. The more carriers rely on smaller cells, the more complex supporting backhaul networks will become.
Dangers of commoditisation: Tariffs and devices drive operator choice

According to the survey results, the most important reason for choosing a new operator is tariff followed by network quality, and device offerings. At the same time, reasons for leaving operators are more explicitly monetary with 24% of respondents leaving the operator because of expensive voice/SMS tariffs, 13% because of expensive data tariffs, and 9% because of the high price of the desired device.
Similar to the situation with Wi-Fi and 4G, consumers prefer price over network quality and the latter is not the main differentiator for operator choice. This means that offering faster speeds with 4G will not automatically lead to consumers moving between operators. Actually, most survey respondents are unlikely to leave their current operator to receive better 4G coverage from another operator, unless they already have a 4G subscription and have experienced the benefits of 4G.

According to the Dutch Consumer Union, the network coverage of all the Dutch mobile networks is comparable and the mobile browsing experience in the Netherlands is indistinguishable at speeds above 1Mbps. If the operators will be rolling out 4G at the same time and with the same speed, the window of opportunity for gaining competitive advantage with 4G is limited.

Given that the tariff is the main factor for operator choice and given that Dutch mobile networks all offer acceptable or good quality connectivity; devices, and to a smaller extent service remain key factors that could differentiate one operator from another without lowering prices.

Figure 35: In the next 12 months how likely are you to change your operator if another operator offered (better) 4G/LTE coverage than your current provider?

Source: Deloitte Global Mobile Consumer Survey Netherlands, July 2013
Base: Respondents with a phone (732) Respondents with a Smartphone (1,083) Respondents that subscribe to 4G/LTE (58)
**Balancing data explosion with all-you-can-eat tariffs and data limits**

With tariffs being the most important factor for operator choice, mobile operators need to engineer their tariffs configuration to get the most of their investment. A number of tariff configuration options have appeared in the recent months and offer plausible ways to balance data explosion with a relative revenue increase.

The first tariff configuration option preferred by our survey participants resides in selective “all-you-can-eat” tariffs for a fixed set of services. More than one-third of the survey participants would prefer such a tariff for services they use most often. The set of applications that the survey participants would like to receive is relatively straightforward and includes instant messaging, email, and social networking applications, which are also the most popular applications with both smartphones and tablets. While data intensive services, like video calls or streaming YouTube or Spotify, are present in this list, carriers could limit the options for data-hungry consumption in order to spread their capacity investments out over time.

The second popular option is providing data bundles with a fixed amount of data and charging an additional fee based on usage outside the limit. This option is preferred by around one fifth of the survey respondents and is already being applied by operators, often in combination with unlimited usage for SMS or Voice. The somewhat controversial advantage of this option for the operators are the additional revenues outside of the bundle that often lead to the “bill shock” that occurs with one third of consumers who go outside of their bundle.

The remaining two options are the “pay-per-use” with 11% of the respondents and “pay-more-for-unlimited-access” with 8% of respondents. To satisfy the needs of the modern mobile consumers, these two tariff variants could be included in the operators’ tariff portfolios alongside the most popular options and, if properly priced, offer additional sources of data income.

---

**Figure 36: Respondents’ preferred tariff configuration for data services**

<table>
<thead>
<tr>
<th>Applications respondents would like to receive unlimitedly for a fixed fee</th>
<th>% respondents who use mobile internet</th>
</tr>
</thead>
<tbody>
<tr>
<td>WhatsApp</td>
<td>72%</td>
</tr>
<tr>
<td>E-mail</td>
<td>55%</td>
</tr>
<tr>
<td>Facebook</td>
<td>53%</td>
</tr>
<tr>
<td>Google Maps</td>
<td>17%</td>
</tr>
<tr>
<td>YouTube</td>
<td>16%</td>
</tr>
<tr>
<td>Buienradar</td>
<td>11%</td>
</tr>
<tr>
<td>Skype</td>
<td>10%</td>
</tr>
<tr>
<td>Nu.nl</td>
<td>8%</td>
</tr>
<tr>
<td>Spotify</td>
<td>7%</td>
</tr>
<tr>
<td>Twitter</td>
<td>7%</td>
</tr>
<tr>
<td>TV App (RTL XL /Horizon / Ziggo)</td>
<td>5%</td>
</tr>
<tr>
<td>Radio</td>
<td>5%</td>
</tr>
<tr>
<td>NOS, Uitzending Gemist</td>
<td>4%</td>
</tr>
<tr>
<td>Eredivisie Live</td>
<td>3%</td>
</tr>
<tr>
<td>FaceTime</td>
<td>3%</td>
</tr>
<tr>
<td>iMessage</td>
<td>1%</td>
</tr>
<tr>
<td>BB Messenger</td>
<td>1%</td>
</tr>
<tr>
<td>None of these</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: Deloitte Global Mobile Consumer Survey Netherlands, July 2013
Base: Graph 1 Total respondents who connect to the internet using their mobile network: 586
Base: Graph 2 Total respondents who would prefer to pay a fixed fee: 209
“SINCE MANY CONSUMERS IN THE NETHERLANDS HAVEN’T EXPERIENCED HIGH MOBILE INTERNET SPEEDS, THEY FIND IT HARD TO IMAGINE WHAT THEY CAN DO WITH SPEEDS. APART FROM SPEEDS, BILL SHOCKS IS THE KEY INHIBITOR FOR THE GROWTH ESPECIALLY WHEN PEOPLE ARE TRAVELLING. AS OPERATORS ADDRESS THESE TWO KEY ISSUES, I SEE THE MARKET FOR VIDEO PICKING UP SIGNIFICANTLY IN THE COMING YEARS”

Dick van der Graaf, Advisor to the Management Board, Endemol Netherlands
Operator reality: Devices against prices
Switching behaviour chord diagram: respondents’ current and previous mobile operator
In order to draw more insight from our research, we applied advanced analytics and visualisation to explore the data. The adjoining figure provides a view of consumer switching behaviours amongst mobile operators.

How to read and interpret
- The switching behaviour for mobile operators is best visualised by using a chord diagram. The figure is similar to the chord diagram on mobile brands, only this time it shows different respondents operators and the behavior of customers between these operators.
- The circle is split up into 7 operators with the arc length of each group scaled to the current operator’s market share. The percentages along the outer rim of the chord diagram give the share-per-operator.
- The chords between the arcs visualize the switching behaviour of the respondents between operators in both directions. For example, the big pink chord connecting T-Mobile to Vodafone in the lower right section shows the part of the respondents that have moved from Vodafone to T-Mobile and vice versa.

In this case, the chord shows that Vodafone has lost customers to T-Mobile, as 5% of the respondents switched from Vodafone to T-Mobile. At the same time, only 3.5% of the respondents went the other way.
- To clarify which brand has been the net gainer, each chord has the colour of the brand that managed to gain more customers from the connected brand than it has lost to that brand. With this in mind, we can immediately see that T-Mobile is a net gainer, as most of its chords are pink.
- There are also chords that connect each brand to itself. These ‘hill-like’ chords represent the respondents who did not switch brands, but stayed loyal to their brand.
Telfort, Tele-2 and other smaller operators that compete on low prices are clear gainers in our survey. We make a number of interesting observations on these price discounters. First, survey results confirm that customers mainly choose for Telfort, Tele-2 or any of the other smaller operators, because of their low prices on voice calling and SMS services, as well the availability of voice and SMS tariffs that suit their demands. At the same time, respondents choose these price discounters less than other operators for availability and price of devices, and – with the exception of Telfort – for quality of their network.

Second, looking at the switching behaviour of our respondents we find that these operators are mainly gaining share from the premium operators. Telfort gains most from its ‘big brother’ KPN, while Tele-2 and other small operators win over customers from Vodafone.

Third, survey results suggest that KPN customers are less easily persuaded to switch to Tele-2 or other smaller operators than Vodafone customers. For KPN customers, moving to these discounters might be a ‘bridge too far’. They would rather switch to Vodafone or T-Mobile, operators perceived to have quality networks and lower tariffs, or Telfort, a discounter within the KPN family.

Finally, on balance T-Mobile is the only premium operator who wins over more customers from the discounters than it loses to them. The operator’s key differentiators are the devices offered and the device prices, factors mentioned by a significantly higher share of respondents than for other operators. Together with a mix of a solid network and generally lower tariffs, the device proposition pays off and the only operator that seems to gain a little bit from T-Mobile is Tele-2, which, being a virtual mobile operator, actually uses T-Mobile’s network.
Bottom line

With smartphones and tablets dominating mobile device ownership, advanced mobile applications have claimed their position in the everyday lives of people. The internet-based nature of these mobile applications has resulted in consumers’ “connectivity addiction” that leads to increasing amounts of data consumed.

When it comes to planning their networks, carriers should examine usage and traffic patterns beyond their own network assets. A large proportion of current data traffic is carried by ad-hoc Wi-Fi networks, and that traffic is mostly invisible to mobile carriers. Understanding the shape and dynamics of total wireless/mobile data usage will likely be critical to the process of planning and deploying optimal coverage and capacity.

Although the total cost of running an LTE network is lower than for 3G, LTE comes at a significant upfront cost: LTE’s CAPEX is estimated to be up to three times higher than for HSPA in the first year of deployment.\(^{44}\) Additionally, LTE users consume larger than average quantities of data which will put a strain on backhaul infrastructure. By the end of 2013, an estimated 150 million LTE subscribers are forecast to consume 20 percent of the total global mobile data.\(^{45}\) By 2016, it is expected that LTE will carry more data traffic than 3G.\(^{46}\) The imperative for carriers will be to build coverage and capacity quickly, but also as economically as possible. To make the deployment and operation of dense, LTE coverage truly sustainable, carriers may need to examine network-sharing options with renewed vigor.

Carriers need to understand whether consumers’ preference for Wi-Fi is because it is perceived to be faster, or is related to lower prices and increased availability of hotspots. Moreover, carriers need to understand if Wi-Fi is being used as a result of a fear of mobile data bundle overruns. A more detailed understanding of these issues will help carriers to position and price LTE.

With the growing importance of data communications and 4G introducing the “highway” for data flows, mobile operators should reposition their tariffs around data usage. The most popular tariff configurations indicated by survey respondents are “all-you-can-eat” tariffs for a selection of services like WhatsApp and Facebook and tariffs that offer a fixed amount of data traffic for a fixed price. The former offers operators’ possibilities to fulfill consumers’ fundamental needs by including the basic applications for the most popular services like instant messaging and social networking and to charge a premium rate for data-heavier services like video streaming. The latter offers operators the means to balance data consumption and the data revenues, compared to unlimited bundles, as the price per Gigabyte in such a tariff will be the same for 3G and 4G internet, implying that increased speed of 4G won’t immediately mean that consumers will get more data for the same price.
Segmentation

Four types of Dutch mobile consumer
Segmentation: Four faces of Dutch mobile consumer

The mobile consumer is a diverse and complex individual in its behaviour. To try to create a granular view, rather than monolithic, we applied a segmentation technique called Self-Organising Maps (SOM), to cluster the Dutch mobile consumer on their behaviour in terms of devices and connectivity.

The SOM is a powerful artificial intelligence technique, which represents multidimensional data in much lower dimensional spaces – usually two dimensions. Through the SOM we can create a map which places similar consumers next to each other, creating a two dimensional overview of the market.

The SOM reveals four distinct segments of the Dutch mobile consumer; the Low Tech Laggards (33%), the Late Followers (38%), the Early Followers (23%) and the Early Adopters (7%).

Using so called ‘heat maps’, the segments can be thoroughly investigated on their preferences in terms of devices and connectivity, as well as, demographic characteristics. Red areas in a heat map signal high concentration or high values of certain characteristic. For example, from the following heat maps, one can conclude that Low Tech Laggards are unlikely to use smartphone for email and are unlikely to subscribe to 4G; at the same time Low Tech Laggards are likely to own a standard phone and use their phone less than once a week.
The below SoMs represent a visualisation of four sample granular views of the survey data. These outputs are often used as the basis of targetted marketing activities. Interested to understand more on how the data and advanced analytics can help you organisation please contact us.

Figure 37: Segmentation of Dutch Mobile consumer, selected variables

Use smartphone for email

<table>
<thead>
<tr>
<th>Low Tech Laggards</th>
<th>Late Followers</th>
<th>Early Followers</th>
<th>Early Adapters</th>
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Owns standard phone

<table>
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<tr>
<th>Low Tech Laggards</th>
<th>Late Followers</th>
<th>Early Followers</th>
<th>Early Adapters</th>
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Choose 4G in next 12 months

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<tr>
<th>Low Tech Laggards</th>
<th>Late Followers</th>
<th>Early Followers</th>
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Uses phone less than once a week

<table>
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<tr>
<th>Low Tech Laggards</th>
<th>Late Followers</th>
<th>Early Followers</th>
<th>Early Adapters</th>
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</table>
The Early Adopters want the latest as long as it is reliable
The Early Adopters are the more technology savvy group of consumers, as they also indicated in our research. This small innovative group (7% of the population) leads the pack. The Early Adopters’ usage of advanced applications is higher than for other groups. They are using mobile banking and payments more frequently, stream video and employ their devices in daily work. Additionally, looking at tablet ownership, this group of consumers has the highest concentration of tablet owners.

But this is not an easy consumer, the Early Adopters have high demands for their devices and the mobile providers. In their phones, the group demands reliability and this is their main criteria in choosing a phone. From their provider they require high-quality connectivity since they are intensive users of their mobile devices. Providers offering public Wi-Fi are more attractive to this group, as well as, those offering 4G. However, providers that drop the ball on the quality of 4G will not be able to retain these consumers as they will not hesitate to switch to a different provider with a higher quality 4G network.

The Early Followers need their smartphones every day, all day
For the Early Followers, the smartphone is a day-to-day necessity. As with the Late Followers, Samsung is the preferred brand of choice for this segment. The difference compared to the Late Followers, is that this group of consumers utilizes more of the functionality of the smartphones. They download apps frequently and use their smartphone to work on emails and connect with their social network.

This more intense use of their smartphones also results in a higher interest in switching to a 4G phone and contract to benefit from the higher speeds.

The Late Followers are entering the smartphone domain
The Late Followers are the largest group (38% of the population) and the majority of the Late Followers have taken the first step into the smartphone domain. We see that this group prefers a Samsung branded smartphone and does not take into account the design aspects of a phone when acquiring a phone. An interesting fact is that although this group predominantly owns a smartphone, they tend to have a very limited number of apps on their phone. It seems that this group is not aware of, or interested in, utilizing the full potential of their smartphones.

The Low Tech Laggards are infrequent users of mobile technology
The Low Tech Laggards represent 33% of the mobile consumers in our research. This segment consists of older consumers (average of 53 years) relative to the total population. This can be seen in the previously shown heat map on age, where a strong red concentration in present in this segment.

When analysing the segment in depth, it becomes apparent why these consumers are considered to be Low Tech Laggards. One of the main traits of this group of consumers is the fact that they own and use a standard phone (mostly Nokia). If we take a closer look on their devices we see that the phones they use are mostly Nokia models that date before 2011 (average age of phone is 2.8 years). Additionally, it can be concluded that this group of consumers are also infrequent users of their mobile devices, often using their phone less than once a week. Also, they prefer to engage in prepaid contracts, paying only if, and when, they use their phone.
Bottom line

We have seen four very distinct segments of mobile consumers (Early Adopters, Early Followers, Late Followers and Low Tech Laggards) with different needs. The question now is how to serve these unique needs as carrier, handset manufacturer or other in the value chain. Every segment shows interesting potential in the mobile market.

The Low Tech Laggards is, also considering the large size of the segment, an interesting group for smartphone sales in the near future. While all other groups have a smartphone as their main phone, go for Apple or Samsung and have a phone around 1 - 1.5 years old, these cautious buyers typically have a 2.8-year-old Nokia featureless handset as their main phone. They have fewer devices, which are usually limited to a laptop and mobile phone and they are not likely to change technology before it becomes a standard; A situation that is very close to the current state of the mobile market where the smartphone has become the standard. A simple smartphone with a low cost pay-as-you-go contract is indicated to be the most interesting product combination for this group looking ahead.

In the segment of the Late Followers there are great opportunities for app developers. This is the group that currently does not utilize their smartphones to their full potential. Educating this group of consumers in app usage and developing low-tech apps especially for this group, will open up potential for the app market.

Providing a strong and reliable 4G network and 4G phone will attract many consumers from both the Early Followers and the Early Adopters segments. These consumers intensively use their mobile devices online and are looking for faster speeds and better coverage. Providers will have the chance to do it right once with the Early Adopters. After the provider has proven itself and attracts more and more Early Adopters, the Early Followers will join.

The Early Adopters are the most challenging consumers to win over. Looking at the purchasing behaviour, they are choosier than other mobile consumer types. Next to brand and reliability, the important purchasing criteria for their smartphones are design and operating system, as well as touchscreen, broad applications market and availability of quality content, high-functioning camera and long battery life. Still, despite the attention to these characteristics, the early adopters are going to buy more devices than any other segment of consumers. One third of early adopters are likely to purchase a smartphone next year, and no purchasing criteria are seen as stopping them from doing so.

The early adopters are also extremely interested in new devices. In fact, they already prefer buying the new wireless chargers and large smartphones, or ‘phablets’, above buying a classic tablet, and would now buy the Google Glass, which is not even on the market yet.
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About the Survey

- Data cited in this report are based on a 20-country online survey of mobile phone users around the world. All research has been undertaken via online research. Fieldwork took place between May to June 2013. 37,600 responses have been included in the study.
- In Belgium, Finland, France, Germany, Japan, Netherlands, Portugal, Singapore, South Korea, Spain, UK, US the samples are nationally representative. All samples in these countries were 2,000+ except Belgium and Finland (1,000). The sample for The Netherlands was 2,009.
- In Argentina, Brazil, China, India, Indonesia, Mexico, Russia, Turkey, the online research approach used results in a high concentration of urban professionals. These are likely to be relatively high earners within their country. All samples in these countries were 2,000+ except Turkey (1,000).
- The questions for this survey were written by Deloitte member firms. The multinational online research program was managed by Ipsos MORI.
- The question set for this survey was standard, except where information about the local market was specifically requested. For example in the United States we asked additional questions about using personal devices for business related purposes.
- Questions were asked in a local official language in all countries and country specific examples were provided. Questions pertaining to spend were all asked in local currency. Currency ranges were tailored to local purchasing power where appropriate.
Recent Research

TMT Predictions 2013
Which trends affect the TMT sector in 2013?
In 2013, the position of existing players in the telecom and media industry is not threatened but enhanced by the rise of apps and internet TV. In addition, traditional televisions and PCs hold up next to tablets and smartphones.

IAB report on Online Ad Spend
The Netherlands H1 2013
Advertising through mobile websites and apps grow significantly
In line with the expectations, the market share of advertising on mobile websites and on smartphone apps grows with more than 6%. This number has doubled compared to 2012. The total Dutch online advertising market shows a sales growth of 5.8 %.

Spot TV
A new breed - Report on TV myths & truths
The Dutch consumer watches more television than ever and almost half of the Dutch cannot imagine life without television. The rise of internet TV, tablets and smartphones will eventually significantly change TV consumption and business models but it won’t disappear.

Survival of the Fastest - TV’s evolution in a connected world
The television industry is significantly changing
Second screens, UHD TV, Internet TV and Big Data change consumer behavior and business models. The providers acting quickly on this change are the winners of the future.

Digital Infrastructure in the Netherlands - The Third Mainport
The Netherlands has a leading position in digital infrastructure
Six recommendations for maintaining our leading position and reaching the next level are made. Next to Schiphol and the harbor in Rotterdam, the digital infrastructure is the third mainport in the Netherlands and therefore essential for expansion and future growth.

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Nyenrode TMT Mini MBA
Technologie, Media & Telecom MBA at Nyenrode: Together with Deloitte, Nyenrode has developed the Technology, Media & Telecom Mini MBA. An interactive and practical business course tailored to the dynamic TMT sector. For more information, go to www.nyenrode.nl.
1) In the 1980s, T&T initially concluded that there was no money in the market for cell phones. An expensive mistake, as A T& T eventually had to buy itself into the market by acquiring McCaw Cellular for $1.26 billion in 1993. From: “The Hall of Innovation”, DTIC, see: http://www.dtic.mil/ed/altzano/innovation/.

2) ‘Gartner Says Smartphone Sales Grew 46.5 Percent in Second Quarter of 2013 and Exceeded Feature Phone Sales for First Time’, Gartner Newsroom, 14 August 2013, see: http://www.gartner.com/newsroom/id/2573415


5) IDC Predictions 2013 - Competing on the 3rd Platform

6) ‘IDC Predictions 2013: Competing on the 3rd Platform’

7) ‘IDC Predictions 2013: Competing on the 3rd Platform’

8) 'Android is Starting to Dominate The Global Tablet Market', Business Insider, 30 July 2013, see: http://www.businessinsider.com/android-dominates-the-tablet-market-2013-7

9) Page views on mobile and desktop devices, September 2013, StatCounter.com, see: http://gs.statcounter.com/


11) 'Android is Starting to Dominate The Global Tablet Market', Business Insider, 30 July 2013, see: http://www.businessinsider.com/android-dominates-the-tablet-market-2013-7

12) ‘IDC Predictions 2013: Competing on the 3rd Platform’

13) Page views on mobile and desktop devices, September 2013, StatCounter.com, see: http://gs.statcounter.com/

14) 'IDC Predictions 2013: Competing on the 3rd Platform’


16) ACM report mobile Q1 2013, Q2 2010

17) ‘IDC Predictions 2013: Competing on the 3rd Platform’


19) According to the OECD, the Netherlands is second worldwide in terms of the percentage of households with access to the Internet (93.6% in 2012)

20) According to the OECD, the Netherlands is second worldwide in terms of the percentage of households with access to the Internet (93.6% in 2012)

21) 191 minutes on average per day (OFCOM report)

22) Deloitte IAB report for NL

23) 'IDC Predictions 2013: Competing on the 3rd Platform’

24) 'IDC Predictions 2013: Competing on the 3rd Platform’

25) According to the OECD, the Netherlands is second worldwide in terms of the percentage of households with access to the Internet (93.6% in 2012)

26) Deloitte European eCommerce assessment 2012 - Maturity of Top 200 European e-retailers

27) ‘IDC Predictions 2013: Competing on the 3rd Platform’

28) ‘IDC Predictions 2013: Competing on the 3rd Platform’

29) According to the OECD, the Netherlands is second worldwide in terms of the percentage of households with access to the Internet (93.6% in 2012)

30) ‘IDC Predictions 2013: Competing on the 3rd Platform’

31) ‘IDC Predictions 2013: Competing on the 3rd Platform’

32) ‘IDC Predictions 2013: Competing on the 3rd Platform’

33) ‘IDC Predictions 2013: Competing on the 3rd Platform’

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46) ‘IDC Predictions 2013: Competing on the 3rd Platform’

47) ‘IDC Predictions 2013: Competing on the 3rd Platform’

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68) ‘IDC Predictions 2013: Competing on the 3rd Platform’

69) ‘IDC Predictions 2013: Competing on the 3rd Platform’

70) ‘IDC Predictions 2013: Competing on the 3rd Platform’


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