



**Mobile TV Joint UMTS Forum
Work Group**

MOBILE TV ADVERTISING

3rd White Paper

Mobile TV Joint UMTS Forum Work Group

The UMTS Forum (UMTSF) recognises the future importance of Mobile TV technologies and how each solution places different constraints on the Business models

This report is the result of a comprehensive study of how advertising could play an important role in improving the business cases and better understand the business opportunities for Mobile TV.

The report addresses amongst other issues:

- Advertising for Mobile TV services

*What the project is **not** intended to do:*

1. Develop strategies for individual operators;
2. Recommend the adoption of a particular technology;
3. Develop operator specific business plans;
4. Develop inter-working or harmonisation between any of the technologies.

The views, conclusions and detailed recommendations expressed in this Report are purely those found and expressed during the work of creating this document and exempts National Administrations who are UMTS Forum members from being bound by them.

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EXECUTIVE SUMMARY

Global market value-creation and business models for Online advertising industry has been growing significantly in the last 6 years, experiencing an average growth rate of more than 40% year-on-year across 16 countries in Europe. Online advertisements are replacing classified advertisements in newspapers and magazines. This trend is expected to continue as the time people spend on printed media is around 12% (of total time spend on media) while generating 40% of total advertising revenues. By contrast people spend about 25% of their media time on internet while internet advertising revenues yield less than 10% of advertising revenues¹.

Interactivity made possible by IP technologies is a key asset for the significant uptake of Online advertising revenues. Mobile advertising is to be regarded a further evolution of Online advertising and is about delivering advertisements to a cell phone.

According to Interactive Advertising Bureau Europe, in 2007 the European online advertising market was worth €11.2 billion, up 4 billion Euros from €7.2 billion in 2006. With a like-for-like growth rate of 40%, the European online advertising market shows signs of closing the gap on the US which grew 26% to a market value of €14.5 billion in the same period.

Advertising messages have traditionally been communicated through TV channels, radio spots, newspaper advertisements and outdoor advertising signs. Since the start of the new millennium online advertising is present on web sites, and more recently on web TV and IPTV. Today, mobile devices offer advertisers a new opportunity to reach consumers in a direct and targeted way. Although not well developed yet, mobile holds promise of interactivity as it facilitates customer engagement.

The increasing availability of multimedia content is opening a large opportunity for sophisticated forms of mobile advertising. As content that already incorporates advertising- like TV programming- makes its way to mobile phones, brands and entertainment, content providers are beginning to see the value of presenting full multimedia advertisements with programs. Advertisers would like to take advantage of the most exiting channel for delivering targeted messaging in the history of advertising.

When we speak about mobile advertising in this report, it is about advertising on mobile phones. The appeal of mobile advertising for advertisers is that it enables market segmentation to an unprecedented degree of specificity, allowing for more precisely targeted advertising campaigns than previously

¹ See table 01

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possible. For operators, it means drilling down even further into user behaviour, attitudes and experience.

Mobile advertising is expected to become a standard feature across the tier 1 mobile operators in Asia Pacific. For example, Google has partnered with Bharti Airtel, MSN with Vodafone, and Yahoo with Reliance and BSNL. This makes mobile search and advertising available to more than 200 million mobile customers in India alone. Another interesting example of the potential for mobile advertising is UK-based Blyk, which offers free voice and download services for the 16-24 age groups if users agree to mobile advertising. The company launched in September 2007 and currently has 100,000 subscribers in the ultra-competitive British market.

Mobile TV is the most obvious place to look to include advertising since television has traditional and successful associations with the advertising industry and consumers are familiar with their regional formats. Advertising will certainly play a key role in the development of mobile TV and video although the business models are far from being established. The scale of the opportunity will be dependent upon the extent to which mobile TV and video users will accept advertising, which will be affected by how mobile TV and video services are funded and priced.

Streaming/ broadcast content Push services are already adopted by 7% of European users, however is expected to grow due to the increased penetration of mobile broadband (HSPA). Advertisements could be delivered within content that is streamed from a server to mobile phones. An example of this type is the 'spot' advertising market for TV and radio. This type of mobile advertising appears to have the highest future potential for MNO's.

The first part of this document explores the advertising market in general and investigates the key learning's from online advertising for the mobile domain. The main focus of this document is on mobile TV advertising as an opportunity to enable sustainable mobile TV business models.

This white paper discusses the main market trends on how Mobile advertising has the potential to capture a substantial share of the total advertising market. It has many attributes that plays directly to advertisers' requirements for ever-greater precision in the targeting of their advertising spend. It further describes:

- The Global market perspective and growing importance of online advertising and how Mobile advertising is a further evolution of online advertising.
- The major trends in four key markets.
- Business potential of mobile advertising and how the value-creation and business models for these markets are undergoing significant shifts across the world.

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- Streaming/broadcasting/download of content business is where MNO's could leverage on and where they have the highest future potential.
- The Key question for "mobile" advertisers:
 - Which **format** works best (Banner, Sponsorship, Search ..)
 - What **content** are the users consuming (Games, Sport, Download ...)
 - **When** are the users consuming (time of day ...)
 - Which **handset** are they using
 - Which **operator** works best (VDF, 3, O2, Orange)
- It makes recommendations towards overcoming some of the obstacles that operators are facing. Mobile Advertisement in general faces the following issues:
 - **Reach** is the key issue for mobile advertisement
 - **Targeting** follows when reach is significant
 - **Metrics** how to **measure** the success needs a trusted national organization
 - **Fragmentation** will be a key issue to avoid
- Various key aspects of mobile TV advertising such as personalisation, value chain and self-regulation, and key success factors such as the need to create uniform measurements and auditing possibilities are critical for the development and future success.

In order to leverage this gigantic business opportunity, it is of crucial importance that the mobile industry teams up and establishes a universal eco-system similar to that of internet advertising. As there is more potential value for mobile operators in TV and video advertising than in advertising via messaging (i.e. largely wholesale) and browsing (important part is off-portal), this reports focuses on mobile TV advertising which includes mobile video.

1. ADVERTISING MARKET OVERVIEW

1.1 GLOBAL MARKET'S

The global digital industry accounts for around 7.3% of global GDP of which approximately 50% is related to telecom and media services. The partly overlapping advertising industry accounts for almost 1% of global GDP. The annual growth of those markets is around 5 - 6% per year. Those markets are not growing any slower or faster than the economy as a whole. Generally speaking this implies that "share of purse" people spend on telecom and media services remained more or less stable during recent years. Although people consume more they apparently do not want to pay more. In other words consumers demand more for the same price. Volumes are growing while revenues per unit are dropping.

The world telecommunications services market grew by 5% in 2006 to exceed 970 billion euro, with mobile services accounting for more than half (51%) of that rise. Mobile revenues currently account for roughly half of the sectors turnover. Fixed telephony service revenues, which are in decline, account for 33%. Internet (access) revenues, standing for 17% of the sector, are increasing due to the uptake of broadband access.

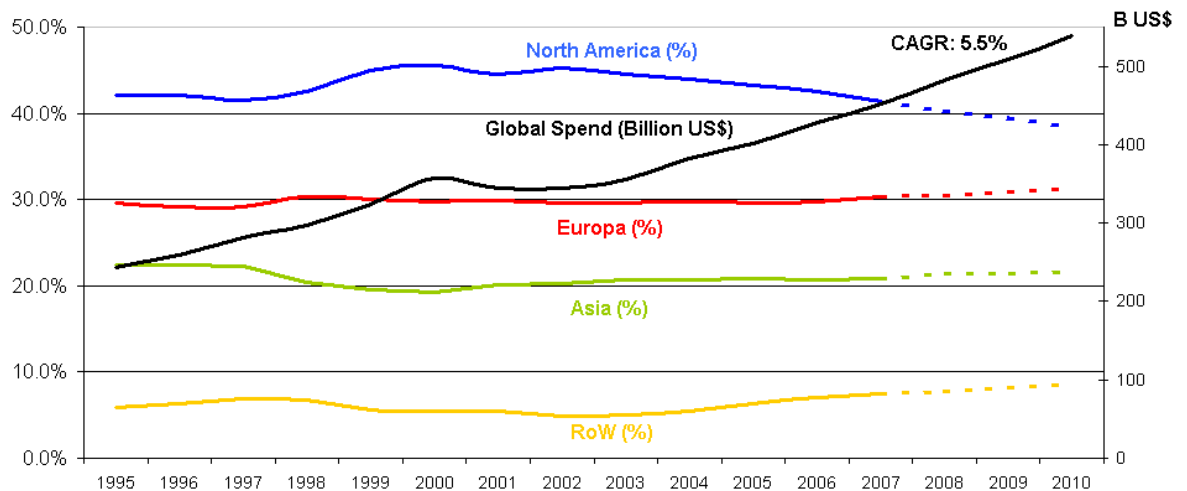


Figure 02 –development of the global advertising market from 1995 – 2010²

Over the last few years advertising expenditure has roughly tracked the economy, and has remained at 0.92% - 0.93% of global GDP. Advertising

² Based on analysis of ZenithOptimedia "Advertising expenditure forecasts" – December 2007
Ver.1.0

spending in 2007 totalled roughly 310 billion euro worldwide³, all media combined. Television remains the medium of choice for advertisers with 37.3% of all advertisement spending around the globe. The internet's share of the pie just keeps on growing, largely at the expense of newspapers. Internet advertising is enjoying a significant upswing as in 2007 it represented 8% of total advertising spending and has been growing by roughly 29.5% (CAGR) annually during the period 2002 - 2007⁴.

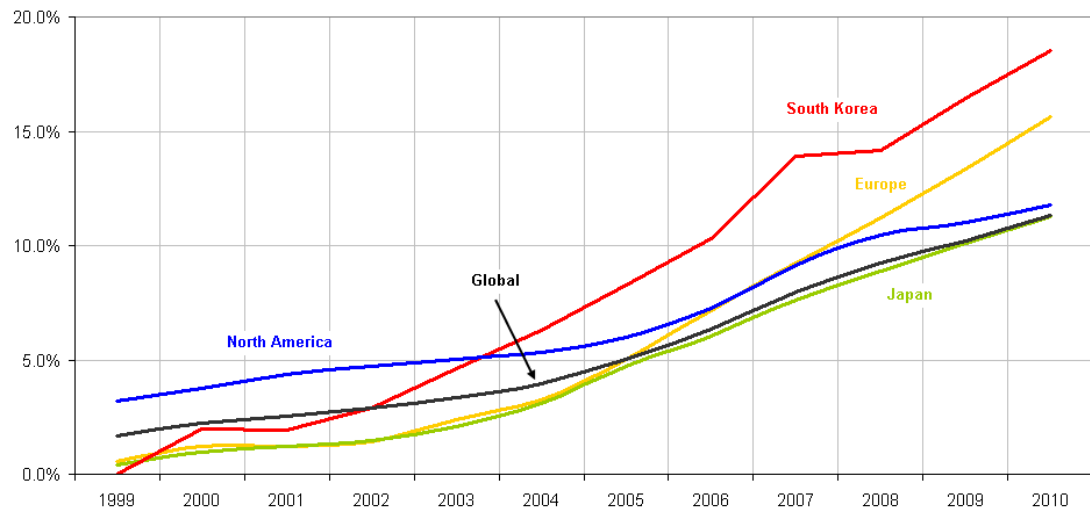


Figure 03 –Uptake of online advertising versus total advertising revenues since 1999 for key parts of the World

This shift from other forms of advertising towards (non mobile) internet advertising is expected to continue for three reasons:

- the ongoing growth of broadband subscribers leading to larger audiences
- the imbalance between the time users spend browsing the web and the proportion of advertising budgets being allocated to it (close to 20% of time spent versus 8% of advertising budgets earmarked for the internet).
- the web offers advertisers tools with greater appeal than other media in terms of interactivity.

³ Based on 1 January 2008 exchange rates (1 US\$ = 0.68479 €)

⁴ ZenithOptimedia "Advertising expenditure forecasts" – December 2007

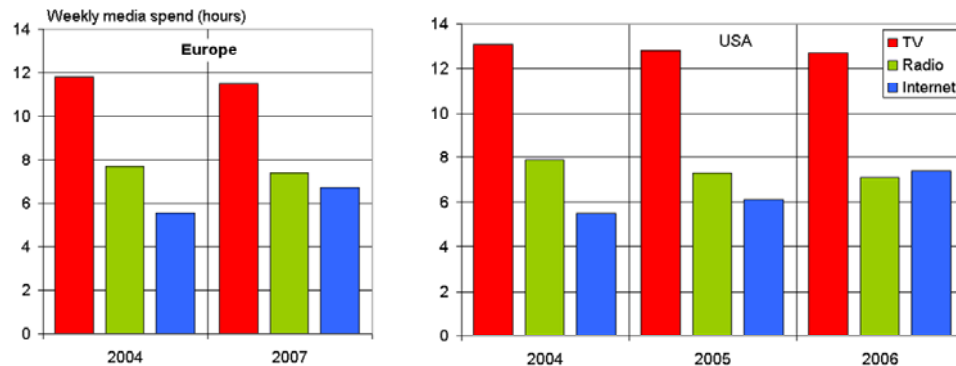


Figure 04 –Weekly media time spend in Europe and USA⁵

New online advertising formats have made great strides, notably video commercials which are more capable of attracting users' attention, and boast a higher rate of recall than classic banner advertisements. Revenues generated by online video advertisements are still limited, they are enjoying swift growth, and could reach 1.2 billion euro in 2009 (i.e. approx 3.4% of online advertising revenues).

Although mobile advertising is in a nascent state it has a huge potential as it holds the promise of 1-to-1 marketing based on

- info on the end user (age, gender, address, customer behaviour and profile).
- dynamic info: location, international travel (roaming), weather, time
- media behaviour: content used/program watched, frequency of watching, etc.
- social network

1.2 Role of advertising in various media

The role of advertising differs considerably across the various media. Newspapers and magazines combined still represent the biggest share of global advertising spending. TV is following closely. On a global scale more than half of TV funds come from advertisers due to its almost ubiquitous penetration everywhere and taking a solid global average of 13 hours viewing per week. On a global level 95% of Radio spending comes from advertising.

⁵ For EU market: Forrester "Europeans Still Enjoy Their Television" – 25 April 2008
For US market Forrester report January 2007

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	TV	Print	Radio	Internet	Mobile
% of total global Advertisement revenues⁶	37.7%	39.0%	7.9%	9.3%	< 0.1%
annual growth of Advertisement revenues⁷	7.1%	3.3%	3.6%	23.9%	-
% total revenues coming from Advertisements⁸	53%	11%	95%	25%	< 0.1%
Time spend (hours/week)	13	4	9	8	minutes per month
Penetration	>95%	90%	80%	60%	SMS: 80% other: <20%
peak times	evening & weekend	morning - midday	working days	evening & weekend	commuting lunch break evening

Table 01 –Role of advertising in various media

Although the penetration of internet lags behind that of other media, especially the penetration of TV, internet advertising spending is enjoying a healthy growth. This is particularly due to the considerable time people spend on this medium (6 - 8 hours per week versus 13 hours for TV) while the share in advertising spending is still quite low at 8% compared to 38% for TV. Furthermore internet scores considerably better than TV regarding interactivity which could potentially be leveraged for personal & contextual targeting of advertisements.

In principal, there is a lot of value to be extract from mobile advertising due to the possibility to leverage contextual, behavioural and individual targeting. However, current revenues from mobile advertising are negligible as neither audience (with the exception of SMS) nor a harmonised industry approach are yet in place. With the uptake of mobile video and TV services the share of mobile advertising is expected to grow and to become significant on the long run.

Mobile advertising is in general not limited to these two content types (Video and TV based services). Other revenue possibilities for advertising strategies are mentioned later in the document.

⁶ 2008 figures - Zenith Optimedia

⁷ 2008 figures - Zenith Optimedia

⁸ Universal McCann, Cable television Advertising Bureau, Veronis Suhler Stevenson, OPA, Rhythm Analysis

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This is the reason that major industry groups are actively investigating this area to claim their share. A key question to address is what value the various industry actors would bring to the mobile advertising value chain and how to organise the eco-system to reap and share the benefits.

	TV	Print	Radio	Internet	Mobile
Reach	++	+	++	+	++
Engagement	--	-	--	+	++
Interactivity	-	--	--	++	++
Contextual & behavioural targeting	-	0	-	+	++
Individual targeting	--	--	--	+	++
Viral	--	-	--	+	++
Transaction	--	-	-	++	++
Measurement	-	-	-	++	++
Brand building	++	+	-	-	--

Table 02 –Advertising as used in media

Media publishers and search service providers increasingly use SMS and MMS to send information in response to user inquiries. These include directory inquiries for store locations, or phone numbers, price search services, and a large variety of other search-via-mobile services. The inquiry is typically, invoked by texting commands and/or keywords to short codes. Advertisements can be inserted in the free (non-used) space in the message, up to the character or size limit of the message. Blyk in the UK offers advertisers SMS and MMS “dialogues”. Various operators use banner advertisings on their mobile portals as well as offer sponsored videos.

1.3 Internet advertising

Traditionally there are three main types of internet advertising⁹:

- **Display and sponsoring:** often grouped together in a single category due to their similarity, these two forms of marketing accounted for approximately one third of the online advertising market in the United States in 2006 (rich media included). This category of advertising is based on CPM (cost per thousand) and obeys logic brand name promotion (used in particular by the top off-line advertisers) and partial focus on the company's off-line business. CPC (cost per click) is also used to prolong the user experience by steering consumers to dedicated sites.
- **Search marketing:** the preferred tool of online advertisers, accounting single-handedly for 40% of advertisement spending on the internet in the US in 2006, or ten times the sums devoted to it five years earlier. The most widely used formula is the sponsored link and CPC, even if contextual advertisement formulas are sometimes counted in CPM. This is the format preferred by medium-size companies seeking to create incentives to buy.
- **Classified advertisements:** 18% of advertising investments on the internet in 2006 in the US were devoted to this format whose market share has been holding steady for the past five years, and expected to continue to do so despite a slight dip due to the growing use of search marketing and the development of rich media. This format is based on a fixed cost model. With auctions and sales services like eBay, the model combines a fixed cost and CPA (cost per action), generally using a set fee and a commission. This is the format used by players working to create an immediate incentive to buy.

Optimedia expects annual global online advertising to surpass 60 Bn US\$ as soon as 2010. Other studies are in line with this forecast.

Yankee Group estimates that broadband video advertising revenue in the US accounted for \$410 million. In 2007, broadband US video advertising started showing signs of life as it commanded 15% of total 2007 online advertising budgets, according to the American Advertising Federation.

In 2012, the European market for online display advertising — banners, buttons, and sponsorships — will grow to €5.6 billion, outpacing offline advertising growth¹⁰. Marketers will continue to follow consumers online as the

⁹ iDate "Advertising Media, Internet, Telecoms: the new battlefield?" date Feb 2008

¹⁰ Forester report "European Online Display Advertising Spend Will Double By 2012" – August 3, 2007
Ver.1.0 14 Feb.2009

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Internet market matures. Regular video use in Europe grew by 80% between September 2006 and April 2007¹¹.

In accordance to analysts online video advertising will enjoy a significant growth during the coming years. This development could pave the road towards mobile TV and video advertising.

One of the main reasons that lead to the increasing growth of internet online advertising is that search Engines offered a standardized portal (e.g. Google AdSense). And second, Google offered a much wider penetration than most of the other portals.

Moving to standardized interfaces therefore, is necessary to make mobile advertising a success market.

1.4 State of affairs mobile advertising

Although mobile content forms only 3% of total mobile revenues two important aspects are worth noting. In accordance to the Mobile Entertainment Forum annual mobile content spending is of US\$ 18.8 billion. This is more than 4 times more than the internet content spending. Furthermore mobile content is 100% user paid as mobile advertising is negligible. On the internet 25% of total revenues come from advertising.

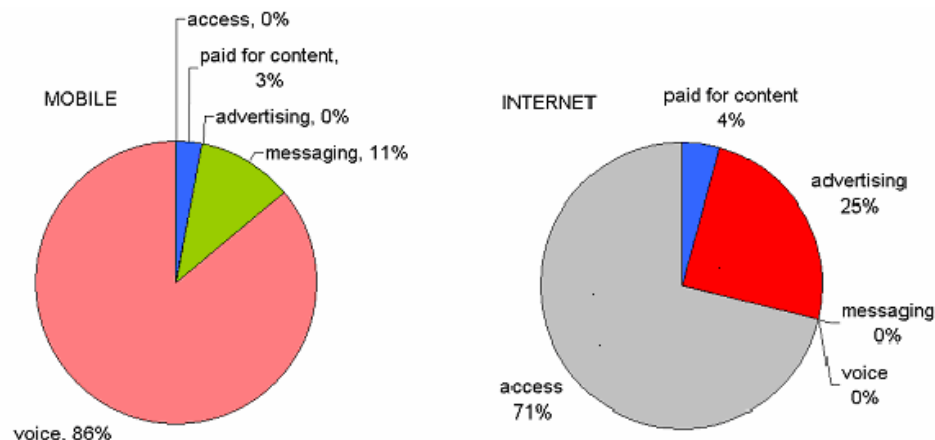


Figure 05 –comparison mobile market versus internet market ¹²

The mobile advertising market is still in its infancy and represents a minuscule share of total advertising revenues today. Although advertisers might view the mobile channel as offering wide reach, the average time spent on mobile

¹¹ Jupiter "European Online Video Advertising" – Aug 2007

¹² Mobile Entertainment Forum

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media such as mobile for video and TV, games, music and browsing is currently limited to few minutes per month on average.

However, mobile is perceived as having very strong marketing potential due to its inherent nature, as follows:

- Devices can be in anyone's pocket at any time and place, with most users always carrying their mobile phones with them. The user penetration is around 80 percent (not counting multiple SIM's per user).
- The mobile channel enables advertisers to interact with consumers at different and unique peak times (e.g., commutes, lunch breaks) when they are relatively more difficult to reach through other media.
- Mobile enables interaction with individuals, not households, due to its personal nature. More than any other medium, mobile can be leveraged to make the most of unique contextual (e.g., time of day, location), individual, and behavioural targeting.

Current mobile advertising revenues largely originate from SMS due to its ubiquitous audience. Regarding mobile browsing the Mobile Marketing Association has taken an important initiative by publishing guidelines banner advertisement formats¹³. Meanwhile the market is being tested for mobile video and TV advertising (refer to paragraph on country reviews).

Analysts are forecasting a healthy growth for mobile advertising. Forecasts range between US\$5.2 and US\$14.4 billion in 2011 to serve advertisements into various forms of mobile media¹⁴. They base their expectation on the fact that supply of mobile advertising inventory continues to grow rapidly. Also competition in the market for both mobile advertising-serving solutions and mobile ad network creation has advanced. On the advertising networks side, major Internet and telecoms players have intensified their focus on mobile advertising, with Yahoo!, Nokia and Microsoft announcing new initiatives. However, they anticipate ongoing rationalization, as shake out occurs in this sector¹⁵.

¹³ www.mmaglobal.com/mobileadvertising.pdf - May 2007

¹⁴ Respectively Juniper and Stratregy analytics

¹⁵ Strategy Analytics - Mobile Advertising Update: "Outlook Bright as Inventory Expands" – May 2007

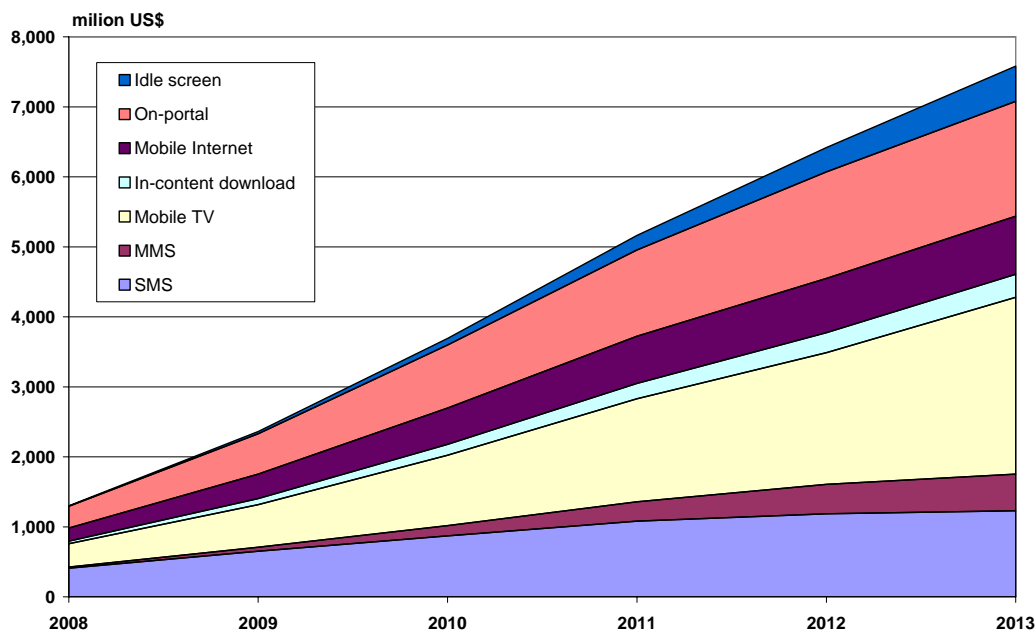


Figure 06 –Total Adspend (\$m) by Channel, 2008-2013 ¹⁶

Juniper Research forecasted the total advertisement spend for the next 5 years for messaging, mobile TV, content download, mobile internet (on- and of portal) and idle screens. In accordance to them the SMS advertising's share of total advertising spend will decline from 31% in 2008 to 16% in 2013, whereas mobile TV's share will rise from 26% in 2008 to 33% in 2013 (Figure 06). Juniper Research projects Mobile TV advertising spend to reach US\$1.88 bn in 2012 ¹⁷ while Screen Digest forecasts €1.5 bn. ¹⁸

1.5 The mobile advertising inventory

Network and back-office technology identify mobile phone models, browser characteristics and screen resolution in order to serve mobile advertisements that are optimized to match the capabilities of each mobile phone. In order to accommodate the wide range of mobile phone characteristics, advertisers would be required to produce and provide their advertisements in various pre-defined dimensions. ¹⁹ To overcome this hurdle it is necessary to establish a uniform eco-system that takes care of device rendering and reporting.

¹⁶ Based on Juniper report "Mobile Advertising delivery channels, strategies and forecasts 2008 – 2013", April 2008

¹⁷ Juniper Research Ltd (2008): Mobile Advertising: Delivery Channels, Strategies & Forecasts, 2008-2013

¹⁸ Screen Digest (2008): Mobile media advertising opportunities: The market for advertising.

¹⁹ Source: MMA's Mobile Advertising Guidelines 2008

1.5.1 The mobile advertising channels

A variety of distinct opportunities exist to serve advertisements into mobile media. These opportunities can be classified into two categories- PUSH and PULL services –depending on whether the user actively requests for content (containing some forms of advertisements), or if the advertising is passively delivered to the user without a request for it.

Push services are likely to offer higher customer response rates, due to the smooth interaction between the user and the advertiser and will therefore most likely be more attractive for the advertising market.

Pull services on the other hand rely on the personal activity of the user, such that the distribution of the advertisements cannot be granted.

Therefore, the following channels could be identified:

1. **Messaging (Push services).** SMS is being used by 74% of European users, while MMS is adopted by 29%. Advertisements can be served into application-to-person (A2P) or person-to-person (P2P) text or media messages. Text-based marketing is most prevalent in Europe where in some countries up to 75% of mobile subscribers are receiving at least one SMS advertising per month, according to M-Metrics. Response rates are impressive, with between 5% and 12% of SMS advertising recipients taking some kind of action, compared with less than 1% for Internet campaigns. But many users are growing tired of receiving unsolicited messages. Spain, the country with the highest SMS-advertising penetration, is also the one where response rates are lowest²⁰. It should be noted that MNO's are hardly involved in this form of mobile advertising as they sell capacity needed on a wholesale basis to advertisers.

The key characteristics which drive the success of advertising via messaging are a high attention level, simplicity, compatibility, propagation, real time tracking and ease of integration in communication plans.

2. **Web sites (Pull services)** accessed via mobile with a user adoption of 19% in Europe. These can be sites that are authored specifically for mobile e.g. WML, or web pages authored in HTML pages, but which may be rendered in such a way as to make them readable on a cellular device. The advertising potential for MNO's is restricted to on-portal content. The role of MNO's regarding off-portal advertisements is negligible.

²⁰ Informa "Mobile media advertising opportunities: The market for advertising in TV, video and games" (30/04/2008)

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- **Search.** Advertisers pay for links to their (mobile) web sites to be placed in proximity to key words searched for by consumers using a mobile web search engine. They invest in search engine optimisation to make it easier for the user to find their company's (mobile) homepage. Search engine advertising also includes sponsored links and paid inclusion. There is not one dominant mobile search engine yet and mobile search behaviours are always changing. The increase of smartphone devices will stimulate browsing the mobile internet and create potential for advertising via search. According to Nielsen Company²¹, search for directory assistance is the most popular form of search, followed closely by text message (SMS)-based searching.
 - **Mobile Web Banner Advertising.** With the uptake of high-resolution screens, sophisticated web browsers, MMS and high-speed access mobile phones will enable high-quality and media-rich mobile web advertising banners. The main metrics will be impressions and click-through rates. Additional metrics include conversion rates, such as click-to-call rates and other degrees of interactivity. Most mobile advertising campaigns today result in significantly higher click-through rates than the Internet.
3. **Download advertising content (Push and Pull services).** Advertisements can be served into content that is stored in the cache of the device. In-game advertising is the pre-eminent example of this type. The model could be extended to other forms of download applications and content, including video clips and music tracks. MNO's could leverage their download business with mobile advertising.
4. **Streaming/ broadcast content Push services).**
These services are already adopted by 7% of European users, and are expected to grow due to the increased penetration of mobile broadband (HSPA). Advertisements are inserted in content that is streamed from a server to mobile phones. An example of this type is the 'spot' advertising market for TV and radio. This type of mobile advertising appears to have the highest future potential for MNO's.

In May 2007, Coca-Cola used the advertising network of mobile marketing company AdMob to run a worldwide click-to-video campaign, targeting banner and text advertisements specifically at users with video-enabled handsets. Elsewhere, Admob stated that it had served 673 million advertising impressions to US mobile users in September 2007 alone.

²¹ Nielsen mobile research report January 2008

1.5.2 The mobile advertising terminal aspects

There are thousands of different types of mobile phones in the market today, and they differ by features such as screen size and supported technologies (e.g., MMS, WAP 2.0, WAP Push und Java). Depending on the target market, multiple creative assets may need to be supplied. This creates the challenge to define standardised formats for different types of advertisements (e.g. size, colour depth, interactivity, user interface, etc). Whereas new smartphones create opportunities to enable advertising formats with a rich user experience.

Handset	Approx Screen Size (pixels)	Example Handsets	Advertising Unit	Advertising Size (pixels) 6:1	Advertising Size (pixels) 4:1
X-Large	320 x 320	Palm Treo 700p Nokia E70	X-Large	300 x 50	300 x 75
Large	240 x 320	Samsung MM-A900 LG VX-8500 Chocolate	Large	216 x 36	216 x 54
Medium	176 x 208	Motorola RAZRs LG VX-8000 Motorola ROKR E1	Medium	168 x 28	168 x

Table 03 –Mobile Web Handset Display and Corresponding Advertising Images ²²

1.5.3 The mobile advertising metrics

The potential of advertising measurements depends on the mode of connection of the mobile device.

- **Connected:** Web access and video streaming or unicasting for which the user has to be connected to the server. It is possible to insert adverts in the content stream online.
- **Intermittently connected:** Are the dominant downloadable application use cases. Intermittently aware applications also pose unique challenges also pose unique challenges. The application must synchronize with the advertising server in order to transmit advertisement impression and/or click-through counters. The application may receive and store the number of advertisements for rotation while the application is not network-aware.
- **Not connected:** These kinds of application can have sponsorship-style advertising only. Advertisements are usually not refreshed during the lifetime of the application. Impression counting can not be applied here.

In connected mode, in contrast to non-connected mode, it is possible to generate reports about advertising reach on the fly. Users can also interact with advertisers via split screens (advertising screen and video screen) and as

a result conversion rates, such as, click-to-call rates and other degrees of interactive measurement, can be reported.

One of the merits of advertising on mobile handsets is that response rates can be measured very accurately. Advertisers can establish not only how many people clicked through their advertisements to a homepage but can also identify them individually however anonymous. If one provides enough value in exchange for customers opting-in to advertising-funded content, further levels of granularity become available: they can establish their age, sex, ethnicity; what content they are surfing; and, based on these factors, deliver targeted advertising via personalisation.

1.5.4 Auditing

To ensure that mobile advertising realises its full potential, five UK operators have started an initiative for the development and future success of the mobile advertising channel. They offer a granularity of data that no other media can deliver. Media planners require consistency, transparency and an end to operator fragmentation to justify driving media budgets to mobile.

This concept is an independently audited and aggregated view of audience usage and metrics that will drive industry growth. The sensitivity of such data and in this respect the importance of 3rd party verification of the correctness of advertisement measurements is critical. The proof of concept results will be made available by the end of this year.

2 COUNTRY REVIEWS

2.1 South Korea

Korea's GDP is expected to have grown by 4.8% in 2007. Total advertising expenditure is expected to have reached 9.5 Bn US\$ (slightly over 1% of GDP), which would represent a 5.6% growth of advertising expenses in 2007. Online advertising generated 1.3 Bn US\$ during 2007, a growth of 42% versus 2006.

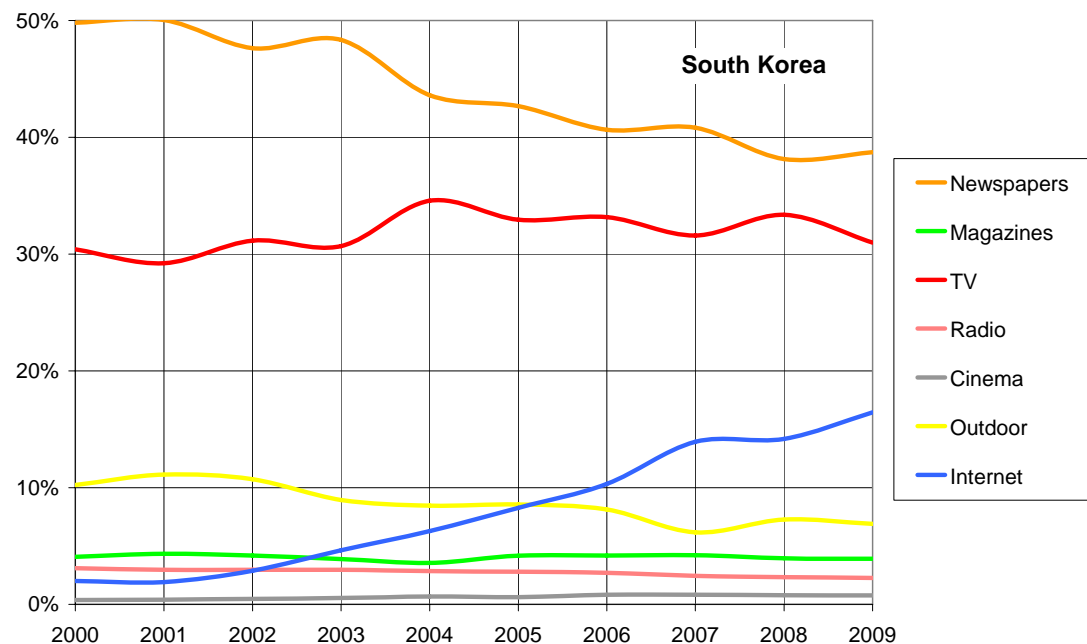


Figure 07 –evolution advertising types in South-Korea 2000 – 2009 ²³

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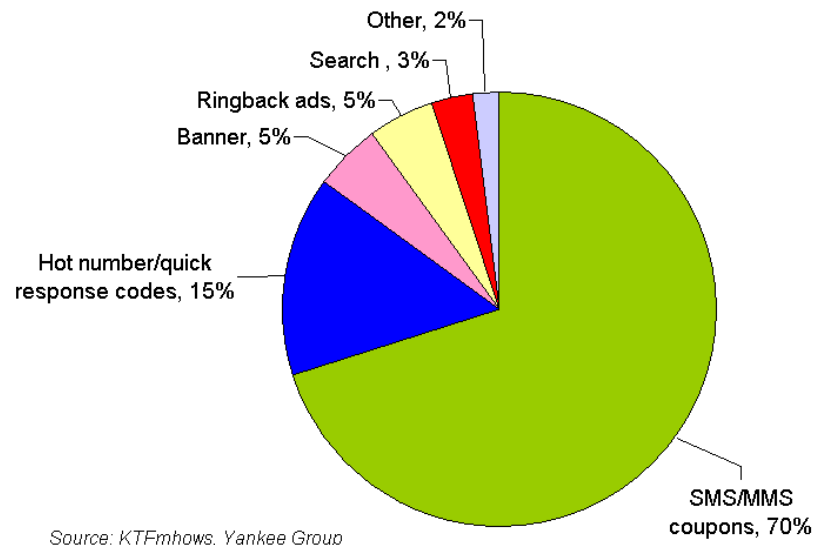


Figure 08 –Korean Mobile Advertising Market Breakdown

The mobile advertising and Korea is clearly on the cutting edge. According to Cheil Communications, the country's largest advertising agency, the mobile advertising market during 2007 is expected to be around US\$ 100 million, slightly under 1% of overall domestic advertising spend and half a percent of total mobile revenue.

There are two mobile broadcasting infrastructures in South Korea: terrestrial DMB (T-DMB) operated by six broadcasters and satellite DMB (S-DMB) operated by TU-Media, a subsidiary of SKT. Advertising on S-DMB doesn't really exist as adverts via this medium are largely from SKT.

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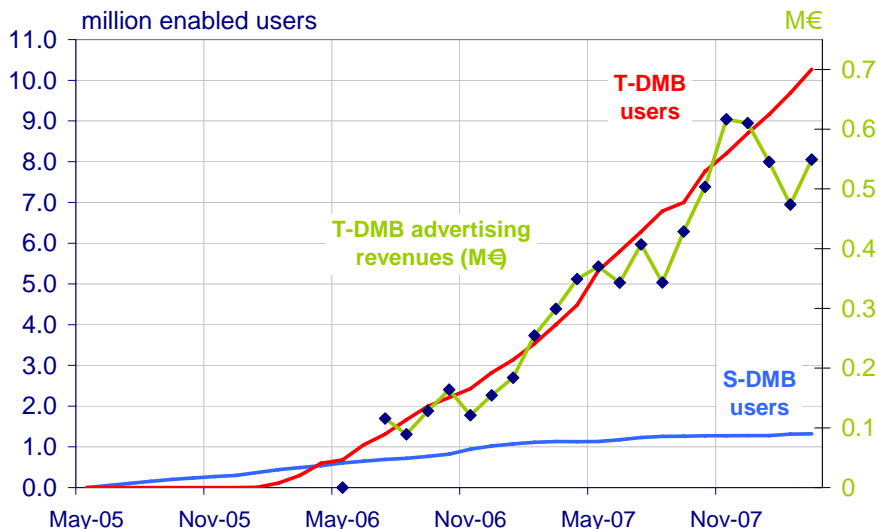


Figure 09 –T-DMB Users versus revenues on advertising generated

Advertising on T-DMB generated about M€ 4.7 during 2007²⁴, which is around 0.2% of total TV advertising revenues and 0.066 % of total advertising revenues in South Korea. The non-targeted T-DMB broadcast advertisements only yielded 6 - 7 €ct per enabled user per month. The potential is expected to increase as the number of enabled T-DMB users has surpassed 10 million the advertising tariffs have gone up. Besides, the introduction of mid-program interstitials is being considered leading to an increase of advertising slots.

The T-DMB service was launched end 2005 by 6 cooperating TV Broadcasters. The investment made by September 2006 was KRW 116.7 billion (approx 90 M€). As stated before, during 2007 the T-DMB service generated M€ 4.7 advertising revenues, while the average expense of the 6 broadcasters was reported to be KRW 500 million/company (approx 375 k€/month/company), approx 27 M€ per year. From the South-Korean T-DMB case it appears that non-targeted mobile TV advertisements are not a sustainable business model.

2.2 Japan²⁵

Total 2007 advertising expenditure as a percentage of GDP was 0.86%. The Japanese advertising industry grew 1.1% to ¥ 7,019 billion. Internet advertising showed healthy growth of around 25% compared with the previous year. In 2007 Japanese advertisers spent approximately ¥ 443.6 bn, approximately US\$4.4 bn on online advertising campaigns, which accounted for approximately 7.6% of country's total advertising expenditure ((0.09% of Japan GDP).

²⁴ KaBaCo

²⁵ Exchange rate applied ¥ 1 = € 0.00624054

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For the first time ever, online advertising expenditures exceeded combined radio and magazine advertising expenditures in Japan. Radio and magazine advertising spending each were down around 4% on a year-on-year basis, while newspaper advertising lost even more heavily with 5%, and TV advertising expenditures are down for the third year in a row. The shift from traditional media towards the mobile channel is already obvious in the world's most advanced mobile market, Japan.

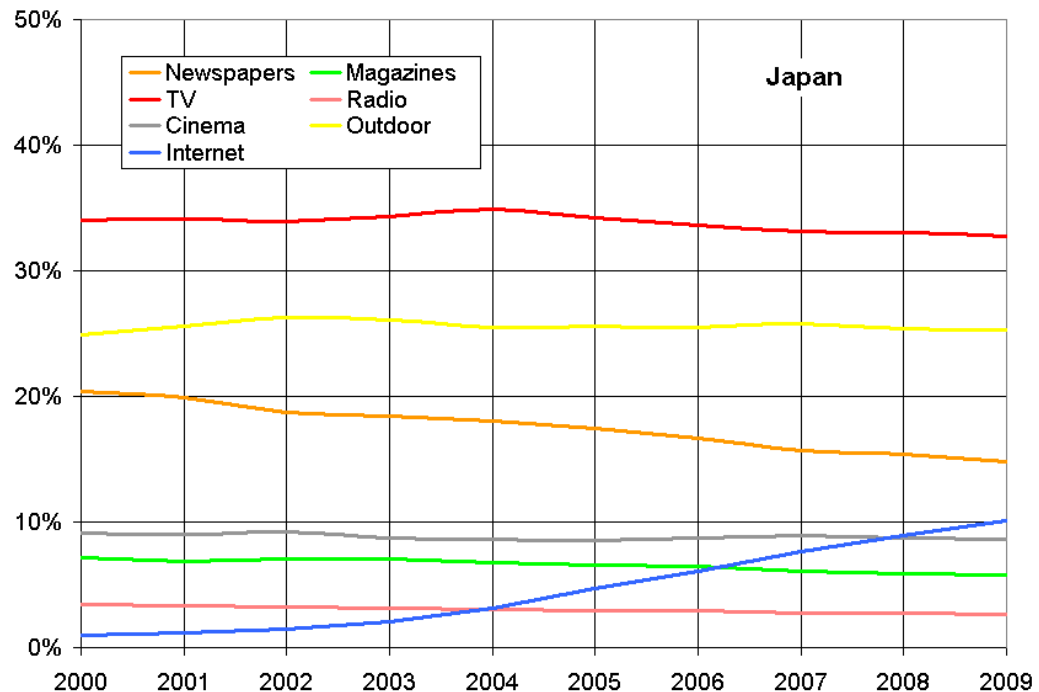


Figure 10 –evolution advertising types in Japan 2000 – 2009 ²⁶

While the importance of mobile advertising is growing, it still accounts for a relatively small share of online advertising revenues (11% in 2006 ²⁷) and for a minor piece of the whole advertising pie, which is still dominated by TV, print and sales promotion. Considering how media usage is developing in Japan, there is still clearly a disconnect between advertising spending on traditional media and mobile. Between 2000 and 2006, the share of time that consumers spend on mobile (relative to all forms of media) has increased four-fold to 4%, but mobile-related expenditures still only account for 1% of all advertising spending. 25% of Japanese mobile data users today respond to mobile campaigns and actually sign up for promotions or make purchases as a result.

²⁶ Based on analysis of ZenithOptimedia December 2007

²⁷ Dentsu Communication Institute – 16 April 2007

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They also try another third click on advertisements, but do not participate in promotional offers.

The 2007 mobile advertising expenditure almost doubled versus 2005. Although it still accounts for less than 1% of total advertising expenditure, it promises a significant growth potential²⁸. Mobile TV advertising revenues are not reported yet as on 1 Seg so far normal terrestrial TV programs are rebroadcasted including the regular TV advertisements (i.e. no specific mobile advertisements).

The following types of video and TV advertisements exist in Japan:

- Banner advertisements and sponsored content in video push services (overnight delivery over-the-air)
- Until 2008 one seg programs are identical to terrestrial TV. This includes regular TV advertisements. With over 25 million one seg device shipments it is to be expected that one seg interstitials will be exploited separately by the broadcaster.
- Banner advertisements are placed in the EPG for instance G-Guide

During 2007 TBS (TV broadcaster), Dentsu (Japan's largest advertising agency) and McDonalds experimented with an "e-coupon" sent to user's mobile through broadcasting while users watched 1 Seg (mobile TV). The recipient could exchange e-coupons (received via one seg) at McDonalds restaurants for free food.

During 2007 also NipponTV tested the distribution of e-coupons via 1 Seg. Coupons are automatically stored onto the user's handset via datacasting inviting the user to participate in a sampling campaign to obtain a free can of newly-marketed coffee produced by Coca-Cola (Japan). Furthermore the experiment realized seamless advertising through the collaboration of Coca-Cola (Japan)'s Cmode-compatible vending machines (called Cmode) to connect "1 Seg" to the "campaign site" to "purchasing the product." ²⁹

2.3 USA

The US advertising market continued to sputter at the end of 2007 and finished the year with a measured spending of \$148.99 billion, up 0.2% compared to 2006. Total expenditures during the fourth quarter of 2007 fell by 0.1 percent versus a year ago. Total 2007 advertising expenditure as a percentage of GDP was 1.1%.

Internet advertising continued its growth leadership, increasing 16% in 2007 to \$11.31 billion in expenditures, excluding paid search or broadband video

²⁸ http://analytica1st.com/analytica1st/labels/Mobile_ads.html

²⁹ <http://www.ntv.co.jp/english/an/06pr/07/20070910.html>

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advertising. Consumer Magazines registered a 7% gain to \$24.43 billion on the strength of higher spending by consumer packaged goods marketers. Cable TV spending surged in the second half and finished 2007 at \$17.84 billion, an increase of 6.5%. Outdoor advanced by 4% to \$4.02 billion. Among television media, full-year Network TV expenditures declined by 2% to \$22.43 billion. Spot TV, in the face of difficult comparisons against record-setting levels of 2006 political advertising, plummeted 10% to \$15.59 billion. Syndication TV fell 1.5% to \$4.17 billion. Advertising spending declines in Newspaper and Radio media accelerated during the fourth quarter. For the full year, Local Newspapers were down 5.6% to \$22.66 billion and aggregate Radio expenditures slipped 3.5% to \$10.69 billion. Both media suffered from spending reductions by automotive, media and retail advertisers³⁰. Wireless advertising is not yet mentioned in advertising analyst reports.

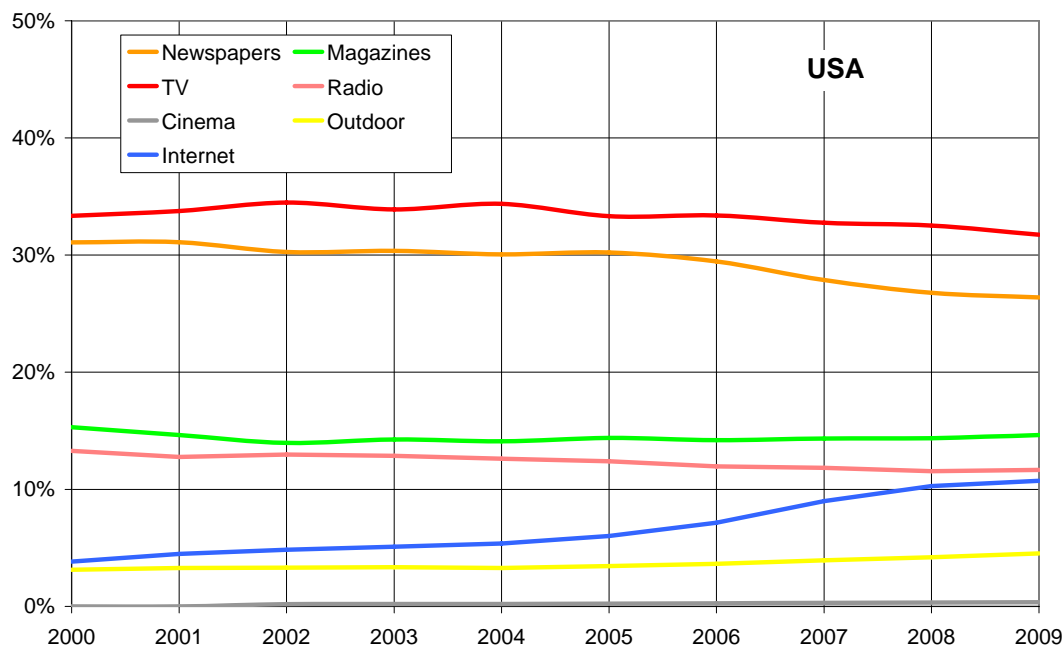


Figure 11 –evolution advertising types in USA 2000 – 2009 ³¹

Regarding mobile TV advertising AT&T is using its distribution relationship with MobiTV. MobiTV (i.e. live TV over a 2.5/3G network) controls an inventory for local spots only, where it can insert mobile-specific spots into interstitials. AT&T has launched mobile TV broadcast services including mobile TV advertising 4th of May 2008, based on a wholesale deal with MediaFlo. Details regarding potential mobile advertising are not revealed yet.

³⁰ TNS media intelligence 25 March 2008

³¹ Based on analysis of ZenithOptimedia December 2007

Sprint is working with Microsoft on mobile search initiatives, with MobiTV for Video on Demand and live TV services and with IMG for free made-for-mobile video content.

So far Verizon is not offering advertisements on its V CAST video-on-demand environment. Advertising is served in V CAST Mobile TV, which Verizon launched in partnership with MediaFLO in March 2007. Verizon is working in partnership with MediaFLO to determine how to adjust advertising for the mobile platform, including targeting. MediaFLO will manage most of the inventory. Verizon is also working with Medio Systems for its on-portal mobile search initiatives.

A remarkable example of mobile advertising is Mosh mobile (MVNO). This company originated mid 2006 and is based on the idea that people should have the freedom to use a cell phone without all of the high costs. For the year 2008 Mosh mobile committed to securing new network space. The service is provided on a super-regional basis through a unique revenue sharing method, that provides their customers with the highest level of service and yet keep their costs low. Today the service is limited to a much selected test group.³²

2.4 Europe

Total 2007 advertising expenditure as a percentage of European GDP was 0.74%. The European advertising industry grew 4.8% to US\$ 108.5 billion during 2007³³.

In accordance to IAB Europe in 2007 the European online advertising market was worth €11.2 billion, up €4 billion from €7.2 billion in 2006. With a like-for-like growth rate of 40%, the European online advertising market shows signs of closing the gap on the US which grew 26% to a market value of €14.5 billion in the same period³⁴.

³² <http://www.moshmobile.com> (Quelle: <http://www.moshmobile.com/about.php>)

³³ ZenithOptimedia December 2007

³⁴ IAB Europe – 2 June 2008

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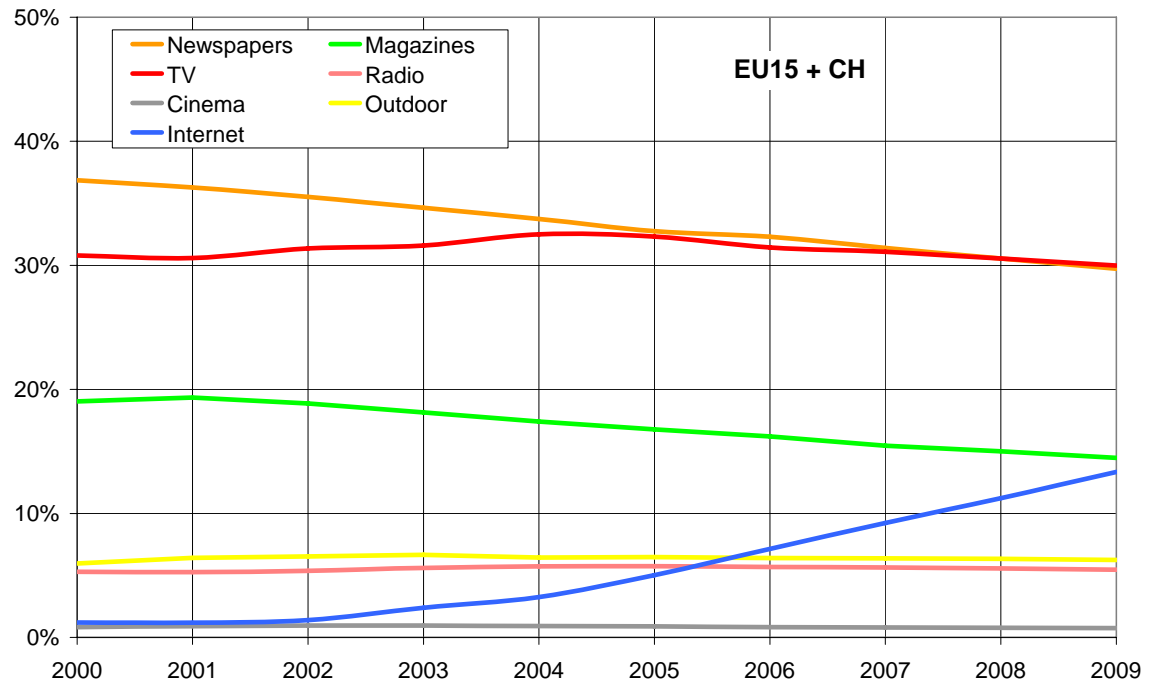


Figure 12 –evolution advertising types in EU15 and Switzerland 2000 – 2009 ³⁵

Advertising growth across Western Europe was reported to be 5.1% in 2006. It is expected to remain around 5% over the next few years. In absolute terms newspapers and magazines are expected to show a continued annual decline in advertising revenue, while the share of expenditure is expected to decline for the next years. Also the broadcast media are losing share, though at a slower rate. In accordance to ZenithOptimedia, Internet advertising continues to gain market share from press and the broadcast media. Internet will account for around 15.6% of total advertising expenditure in Western Europe in 2010, up from 9.2% in 2007.

Mobile operator Three in the UK launched pre- and post role advertising funded video service in March 2007. The uptake of this service was 25% seven months after launch. 60% of the adopters are male. Average usage is three videos per day per user, news and weather being the most popular content.

Since June 2007 Swisscom offers pre- and post role advertising-sponsored videos. The free comedy clips and sponsored videos show an 8x higher uptake versus same clip on the premium site. Low priced music video clips (i.e. 30 €ct) show a 12x higher uptake versus same clip on the premium site.

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Blyk is a new UK mobile virtual network operator (MVNO) focussing on 16 – 24 years of age youngsters that's funded by advertising. Blyk is planning to go pan-European during 2008 with the potential to reach over 40 million young consumers. Blyk links young people with brands they like and gives them free texts and minutes every month. For advertisers, Blyk is an innovative, new media channel, providing direct access to the 16-24 segment.³⁶ Blyk is offering free voice and/or data service in exchange for the acceptance of advertisements. Users have to interact with these advertisements in order to receive more free minutes or free texts. The average response rate to Blyk message dialogues is currently 29%. This far outstrips the response rates seen in any other media channel. To put this in context, online banner campaigns typically have response rates ranging from 0.02% up to a rare maximum of 1%, while Direct Mail response rates rarely exceed 2%.

³⁶ <http://www.blyk.co.uk> (Quelle: <http://about.blyk.com/>)
Ver.1.0

3 BUSINESS POTENTIAL MOBILE ADVERTISING

3.1 top-down assessment

The future potential of mobile advertising could be assessed with a top-down approach. The uptake of broadband internet (i.e. always-on) is taken as a basis and converted to the potential of it's mobile equivalent by applying a timelag observed in Japan as one of the most advanced markets. The relation between the fixed broadband penetration and the uptake of internet advertising as a percentage of total advertising is shown in the following graph. These markets represent about 75% of global advertising expenditure.

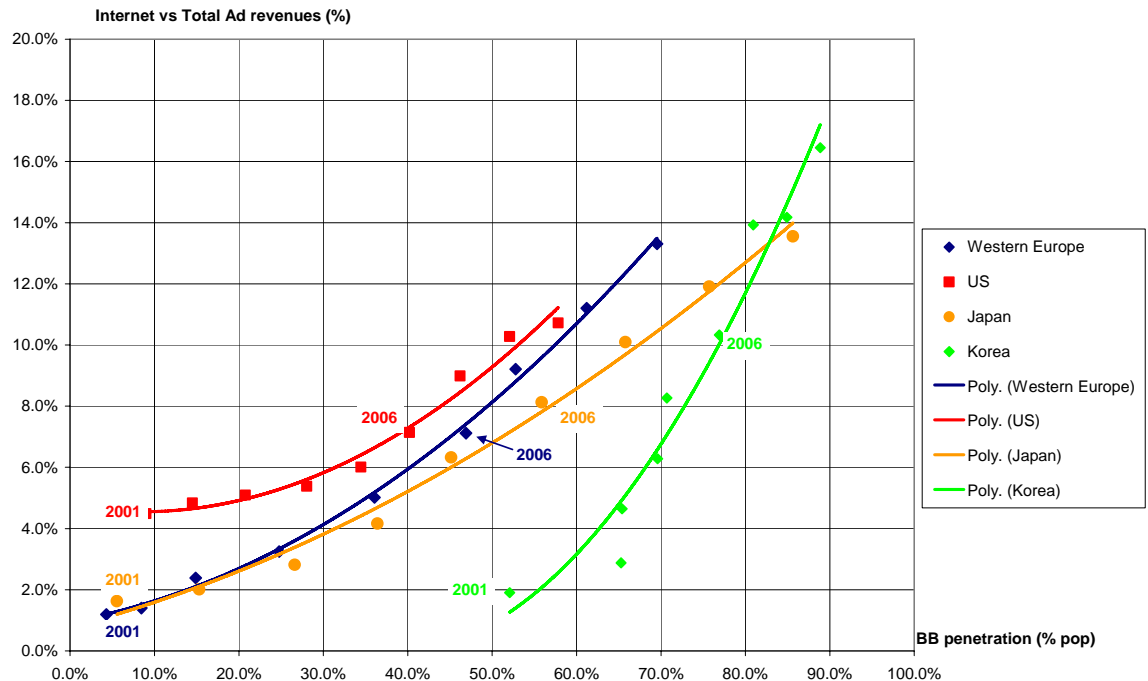


Figure 13 –relation between (fixed) broadband penetration and internet advertising vs. total advertising expenditure 2001 - 2009.

There is a noticable difference for South-Korea versus the 3 other markets. Broadband internet penetration in South-Korea reached 50% of population in 2001 which is 6 years ahead of the other 3 markets shown. One possible explanation for this anomaly is that South-Korea as such perhaps lacked the scale to drive internet advertising on it's own right. Once this new form of advertising started to take off in the major global markets in 2001, it took off in South-Korea as well.

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Based on information reported by Dentsu Communication Institute in Tokyo; the uptake of mobile advertising lags about 6 years behind online advertising in Japan. The uptake of online advertising in Japan is slightly below the global uptake since 1999 and significantly below leading countries/continents like North America, Europe and South Korea.

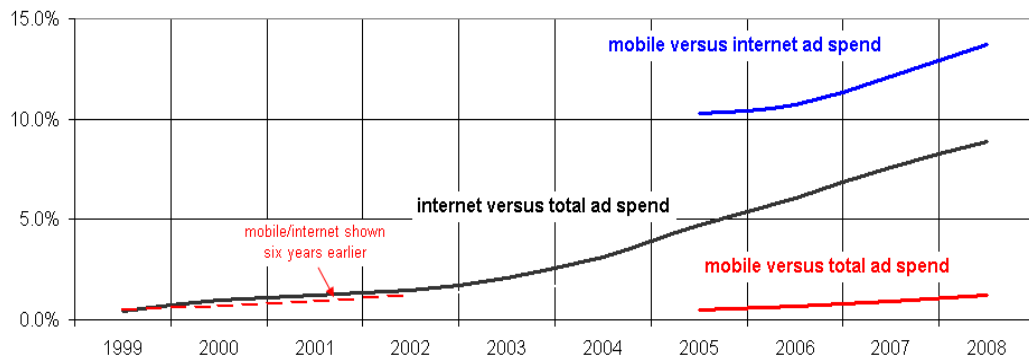


Figure 14 –uptake of mobile versus online advertising in Japan³⁷

It should be noted that Japan enjoys the world's most integrated mobile internet eco-system. Hence one should be very careful in extrapolating Japan's early results to other parts of the World. However one could safely assume that mobile advertising could generate a similar uptake of advertising revenues as online advertising has shown about 10 years earlier in a particular country provided that adequate national or multinational eco-systems are put in place.

3.2 Bottom-up assessment

Mobile TV & video viewing time is expected to be driven by the following use cases:

- Social networking (e.g. you-tube, face-book, etc) : few hours per week
- Events (e.g. Olympics, UEFA cup, etc) : few hours per day during event
- Daily habits (commute, stay informed, etc) 0.5 - 1 hour per day

The following table illustrates viewing time for mobile TV broadcast for the various operational networks and field trials. It is fair to expect at least 30 minutes of viewing time per working day for mobile TV and video for enabled users, once those have become mature services. Most of this time will be formed by the need for "time killing" during daily commute and lunch breaks at work.

³⁷ Dentsu Communications Institute "Estimates for 2007 – 2011 internet advertising expenditure" – 16 April 2007

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Country	Viewing time	Trial or operational network
Austria	15-30 mins/day	DVB-H field trial with 1000 users ³⁸
Finland	2 hours/week	DVB-H field trial with 500 users
France	3 hours/week	DVB-H field trial with a few hundred users
Italy	40 – 60 mins/day	Tre Italy with approx 200,000 active users
Japan	4 hours/month	More then 25 million 1 Seg devices shipped
South Korea	53 mins/day	More then 10 million enabled T-DMB users
South Korea	46 mins/day	1.3 million S-DMB users (Tu Media)
Spain	20 – 30 mins/day	DVB-H field trial with 500 users
UK	3 hours/week	DVB-H field trial with 375 users
UK	1 hour/week	T-DMB field trial with 1000 users

Table 04 –mobile TV broadcast viewing times ³⁹

The uptake of HSPA mobile handsets is forecasted to surpass 15% of the global mobile base between 2011 and 2012. Assuming a 20% penetration of mobile TV & video services this would lead to a critical mass of active users consisting of 3% of mobile global users in 2012. This situation is more or less comparable with the home broadband situation observed in 2001 while viewing time is slightly lower (3 hours vs 5 hours). Ovum predicts a much faster uptake of HSPA devices for Europe (i.e. 75% in 2012). This “upward potential” of a faster uptake is however not taken into account in this whitepaper.

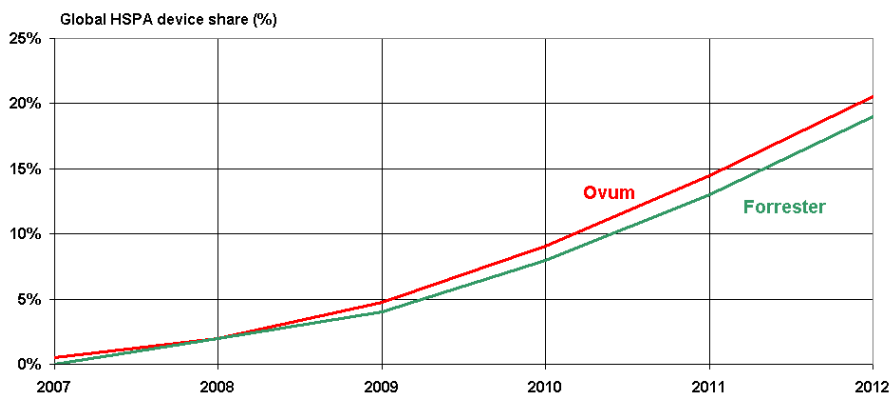


Figure 15 –HSPA handset uptake as % of global mobile users⁴⁰

³⁸ Sources: <http://www.tvienna.at/tvienna/2007/programm.htm>

³⁹ Sources: Elisa, TDF, Thre, Qualcomm (Japan), KoBaCo, Abertis, Arqiva, BT Movio

⁴⁰ Forester March 2008, Ovum April 2008

By applying a time shift of 11 years and a scaling down factor of 0.6 to global online advertising revenues, this would lead to the following revenue forecast for mobile TV and video advertising revenues assuming that the necessary harmonised eco-system and well defined standards will be in place by then.

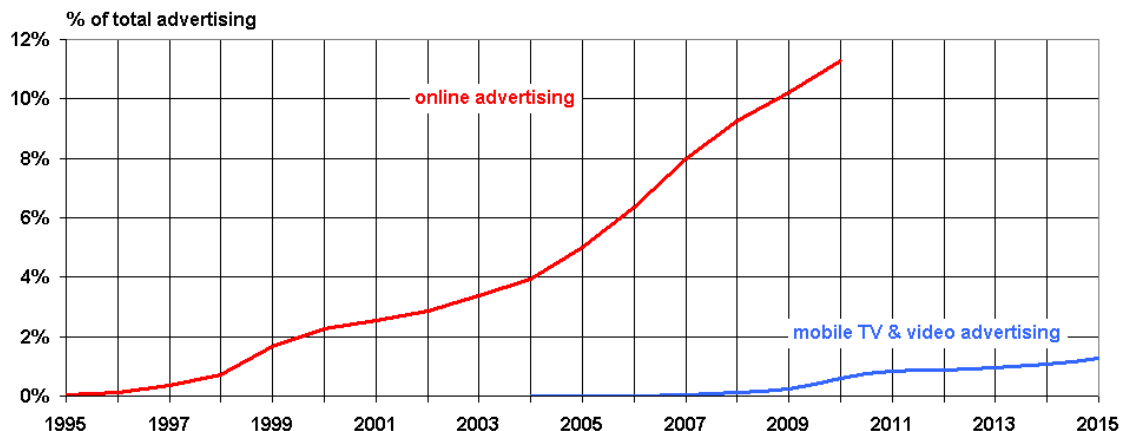


Figure 16 –predicted uptake of mobile TV & video advertising as % of total advertising

It should be noted that the relative slow increase in the internet market between 2000 and 2004 was because of reduced investments after some misinterpretation of the stock market in general.

3.3 Conclusions

- Major markets have shown similar correlations between the uptake of broadband internet and online versus total advertising revenues: online advertising starts to materialise beyond broadband penetrations of 10 – 20%
- Japan, with the world's most integrated mobile internet eco-system, enjoys a steady uptake of mobile advertising which lags about 7 years behind on-line advertising.
- Adopters spend 3 – 4 hours on average watching mobile TV & video
- The uptake of HSPA mobile handsets is forecasted to surpass 15% of the global mobile base between around 2011. Key markets will enjoy a faster penetration.
- As the HSPA user experience will be similar to the online user experience at home, mobile TV & video revenues are predicted to trail online advertising revenues by around 11 years
- Mobile TV & video advertising revenues of 1 – 2 % of global advertising revenues are predicted for the period 2011 – 2015 revenues assuming a harmonised eco-system will be in place

4 MOBILE TV ADVERTISING

Mobile streamed and broadcast TV services are anticipated to become a lucrative delivery channel for mobile advertising in the future. Mobile TV advertising offers, personalized advertising with very high response rates delivered to a device which is always close to the receiver and will make it an increasingly attractive proposition for brands.

4.1 Introduction to mobile TV

Although some forms of Mobile TV have been available for some time, is yet to become a mature service. It is only widely available in the form of streaming or downloadable clips; in many countries broadcast Mobile TV has yet to be introduced.

Over time Mobile TV is expected to combine broadcast programming with streamed and downloaded content to provide a fully integrated service to the end-user. The user should be able to select the content that interests them from a common service guide and need not be concerned about the technology that is being used to make it available.

It is envisaged that a complete Mobile TV service would comprise the following elements:

- Service guide: the common entry-point to all the different Mobile TV services offered to the user.
- Live services: linear programming broadcasted and received simultaneously by multiple users.
- On-demand services: multimedia content streamed or downloaded to individual users.
- Scheduled delivery: selected content delivered to mobile devices using cellular or broadcast technology.
- Interactive services: giving the user the ability to interact with content and service providers.

4.2 Types of mobile TV advertising

Mobile TV offers a number of key opportunities for advertising; advertisements can be inserted in the content stream, displayed as banners in the client application or within the ESG, used as a gap filler during service breaks or as an in-fill opportunity when changing channels or requesting new services.

Interactivity is an important driver for **internet advertising**. Whereas internet access is typically bound to a fixed location, mobile offers an ubiquitous 'in your hand' click-through experience to take advantage of impulse reaction to displayed advertisements.

This immediacy for impulse interactions gains further relevance as transactional capability is introduced to mobile devices such as embedded credit card, mobile purse and the ability to charge back to mobile phone bills.

It is expected that in most countries Mobile Network Operators will play a key role in delivering a seamless mobile TV experience.

There are four basic categories of Mobile TV advertisement formats to be considered:

- In-channel (user watching a TV channel)
 - Advertising break – interactive video within commercial breaks during the Mobile TV programme
 - Banner – shown in split screen mode or as an overlay on the Mobile TV programme
- Out-of-channel
 - Short video played when TV player is activated or during channel zapping
 - Pop-ups and banners in the Electronic Services Guide (ESG) giving access to the mobile internet portal

4.2.1 Advertising break

Live TV content is mastered by the content aggregators. In most countries Mobile Network Operators will play a key role to deliver a seamless mobile TV experience and to put adequate network and device enablers in place.

As stated before the typical 20 – 30 second home TV advertisements as well as 5 – 7 minute “commercial breaks” need to be reduced in time while maintaining the same TV program. Although Mobile TV users will most likely find more frequent and much shorter commercial breaks more acceptable this needs to be agreed by the various actors in the Advertising value chain.

As for the content itself, standard TV commercials may not be suitably formatted for Mobile TV viewing. The Service provider can replace TV commercials by specific Mobile TV Advertisements. As an alternative to advertisement breaks advertisers could produce and present special program over a pre-defined period, e.g. similar to Bacardi Radio⁴¹, where in contrast to traditional TV channels no additional advertisements are inserted.

⁴¹ <http://www.bacardibliveradio.com>
Ver.1.0

4.2.2 Program banner

A banner or full-screen advertisement related with the program that is being shown will pop up when the viewers are watching a program that is added with interactive advertisement. Viewers can choose to skip the display of the advertisement, or click the link provided by the advertisement to get more information. For example, during an MTV show, interactive advertisement may pop up to inform the viewer where to download the song being played.

Inserted overlay and split screen will only be feasible if authorised by the regulator as well as by the vast majority of the right owners. This type of Advertising is ideal for voting and click-through to M-Commerce websites.

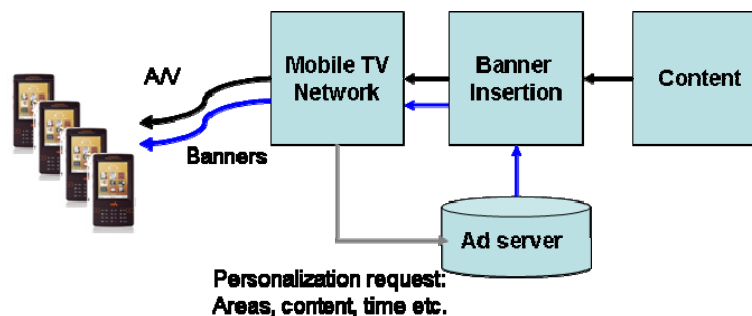


Figure 17 –Synchronized banner insertion

4.2.3 Short video

Short videos can be pre-, mid- or post- rolled with VoD content. They can also be rendered by the Mobile TV application during channel changes as short videos could be presented during the few seconds of waiting time. These personalized videos are delivered either as part of the Audio/Visual flow or pre-delivered to the terminal. The insertion mechanisms in the network require that an adaptation function is inserted between clients and content server to adapt the content.

4.2.4 Advertisements within the Electronic Service Guide

The Electronic Service Guide (ESG) is an emerging portal for multimedia content. The ESG could support several types of advertising, some of which may be related to the content listed in the guide itself, while others could be advertising products and services in general. For example, the service guide for a sports channel might contain advertisements related to the listed content, but could promote links to services hosted by the operator or by external websites.

With a fully integrated ESG covering not just broadcast programming, but also other content sources and advertising, consideration must be given to how all of the service data is made available to the mobile device. It is widely assumed that only minimal ESG data will be provided over a broadcast channel, with additional data being accessed via other means, including the cellular back-channel.

4.3 User Information

The Mobile Network Operator typically has access to the subscriber profile information like its age, areas of interest etc. Note however that the user may not always be the subscriber. For example parents may access services for their children.

The history of content watched earlier and content currently being watched may also be used to perform personalization. Other history information about the user's activity may also be collected to further target advertisements in an efficient manner.

Based on internet experience regarding Adware and spam, users should be consulted to allow the scan of their personal data and should also be presented with an explicit Opt-in/out mechanism to increase its acceptance.

Actually, opt-in/opt-out possibility should always be available for all kinds of advertisements in the best way, and in this way individual subscriptions to different advertisement categories should be possible.

Finally, the device information as well as geographical location may be used to personalize advertisements.

4.4 Advertising selection and placement

Advertisements may be targeted at single users or at groups of users. For example, Advertising can be placed to all users in a particular area and at a particular time. Or advertising can be placed to a particular user because of its declared preferences.

Based on the user and context information, the Advertising system should place users in groups and further map these groups to particular Advertisements.

In a network based system, the Advertising servers offer interfaces for the Advertising requests based on the User and context information. In a terminal based Advertising system, the terminal application selects the Advertising to present based on user and context information metadata. A more extensive explanation is provided in section 5.1.

4.5 Customer Experience

Access to the service could be through a Mobile TV client application, initially either into the Electronic Service Guide or directly into the last viewed TV channel; transition between the two should be as seamless as possible. Advertising should be relatively unobtrusive while watching a programme, but could take the form of split-screen banners, commercial breaks or pop-ups displayed when interactive services are triggered. Banners could also be displayed within the ESG, with pre- and post-roll videos being shown as channels are switched or other content is accessed. Clicking through advertisements or interactive services could launch another window so that the user can easily return to their original place when they have finished by simply closing the new window.

4.6 Mobile advertisement Standardization groups

Beside GSMA and UMTS Forum, a number of standard organizations define specifications on Mobile TV advertising:

- OMA – Open Mobile Alliance
 - The TP-MobAdvertising group defines a set of techniques that enable the delivery of advertisements to a mobile user and the metering of use, leveraging different capabilities of the networks and devices to obtain personalized and interactive advertisements. A number of OMA enablers are related to Advertising delivery techniques such as BCAST, DCD and RME.
- MMA – Mobile Marketing Association
 - MMA markets the mobile operators and their networks as a prime channel towards the advertising industry. MMA e.g. specifies formats on banners and some contents of metrics data
- IAB⁴² – Interactive Advertising Bureau
 - IAB proves and promotes the effectiveness of interactive advertising; grows the advertising marketplace and ensures secure transactions in interactive advertising processes; set committees, task forces and councils for discussing industry-specific issues.
 - IAB currently focuses on the internet but is starting to look also into mobile

5 PERSONALISATION AND TARGETING

The purpose of personalisation is to tailor advertising content and its presentation to the individual user's profile. Similar to online advertising, personalisation enables one-to-one communication of advertisers with their audience by dramatically improved targeting and context-aware advertisements, resulting in increased relevance of advertisements to end users and a higher response rate for interactive services.

5.1 Achieving personalization

Personalization can be system-driven as well as user-driven. System-driven personalization is performed automatically in the background, e.g. presenting different holiday destinations to different users, depending on their demographic profile. User-driven personalization refers to advertising customization, e.g. with the user explicitly opting-in for specific content of interest such as sports equipment sales.

The following elements could be personalised:

- advertising content (e.g. type like sports or travel, depth like level of detail)
- content presentation/style (e.g. banner, icon, pre- or post-roll),
- communication/feedback channels preferred (e.g. SMS, web or voice/video call back)

The potential issues of any kind personalization are

- End user privacy (e.g. "big-brother is watching" fear)
- Regulatory barriers (e.g. data protection)
- An negatively affected user experience by false guesses of the system
- The user feeling out of control of the selection and presentation of content

One way to address these issues is to let users provide feedback on the quality of the personalisation output itself (e.g. whether the selected content is of personal relevance or not) as well as a general possibility to opt-in or opt-out of the personalisation system at all.

The key inputs to mobile personalisation systems are customer related data (user profile and context). Another important data source for Mobile TV advertising is metadata about the currently viewed TV content itself (e.g. target TV audience, genre and subject matter and mood of the programme).

Advertising systems could be placed in two broad categories:

- Network based (Centralized approach)
- Terminal based (Decentralized approach)

There are three steps in achieving Mobile TV Advertising personalization in a network based Advertising system:

1. Collect information about users and context
2. Select/Modify the Advertising according to this information
3. Deliver the selected Advertising to the user or group of users

In this case, only the selected Advertising is delivered to the User terminal. There are two steps in achieving Mobile TV Advertising personalization in a terminal based Advertising system:

1. Deliver all Advertisements to all user terminals
2. Each terminal selects and renders the Advertising according to the user and context information

Solutions can be a mixture of the network and terminal based. For example, the network may deliver a group of Advertisements based on the geographical location and then the terminal application selects the ones depending on e.g. the user's private, locally specified content preference profile.

5.2 Delivering personal advertisements

The delivery of personalized advertising can be supported in different ways, depending on the types of wireless network (unicast, broadcast, and hybrid) available to the operator.

Unicast: Today, live Mobile TV is mainly offered via 3G mobile networks in unicast mode. In this case, the operator maintains a unique point-to-point connection for each user watching TV. Personalisation of advertisements thus can be done centrally on a play-out level for each user separately. The individually adapted streams are then distributed in real-time to the individual user.

Figure 18 describes Advertising insertion in the case of linear Unicast TV. In this case, Hannah and Luca may be watching the same channel; they will receive different advertisements during Advertising breaks.

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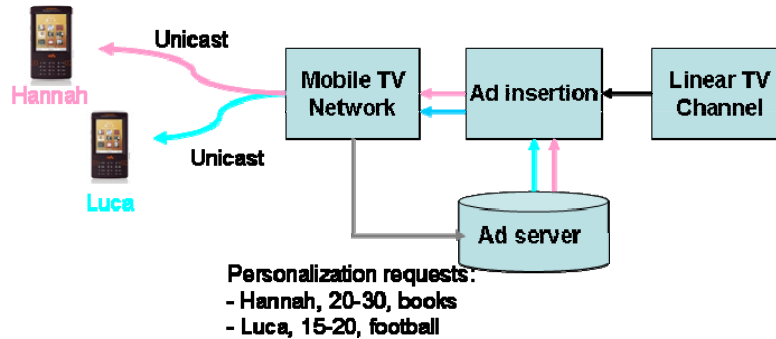


Figure 18 –Advertising insertion for linear unicast TV

As the Advertisements are encoded as part of the Audio/video stream, no particular action is required by the terminal.

Broadcast only: If the user receives Mobile TV via broadcast mode, no unique 3G channel is available for real-time distribution of personalised advertisements to every viewer. In order to achieve personalised advertising in this case, the decentralized approach is required: in this case a catalogue of advertisements is pushed to the user terminal's memory in advance (for instance via IP-Datacast). During interstitials, an advertising matching the user's interest is then run from device memory, selected through an on-device personal profiling algorithm. For this case, it is essential that the industry establishes a widely adopted standard approach for pre-loading advertisements to mobile devices as well as on-device personal profiling, in order to make personalized Mobile TV advertising attractive for advertisers and their clients.

Figure 19 illustrates Advertising insertion in the case of linear broadcast TV. All users in this broadcast area watching the same channel will view the same Advertisements.

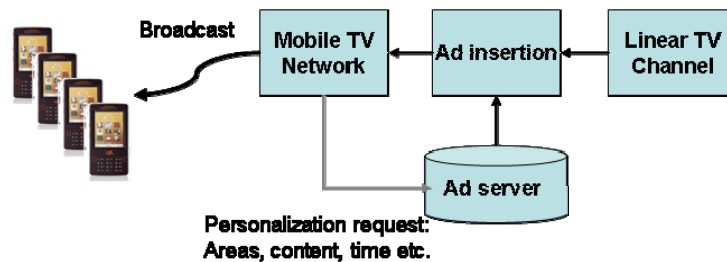


Figure 19 –Advertising insertion for linear broadcast TV

Hybrid broadcast/unicast: if a wireless broadband connection is available in parallel to broadcast, the broadcast channel can be relieved by transferring personalized content via unicast. In this case, a hybrid approach is possible, where the terminal's TV player has the function to aggregate and synchronize both content sources into one coherent presentation.

In order to let personalized Mobile TV advertising achieve the required economies of scale, it is necessary to reliably and measurably reach a critical mass of viewers and to provide efficient means to offer personalised mobile advertising inventory to advertisers and their clients. To this end, the widespread adoption of coherent standards for personalisation and presentation mechanisms is mandatory.

5.3 Potential of emerging media

Supported by the proliferation of mobile communication and Web 2.0 technologies, communities that connect like-minded people have emerged as a new force in business. High trustworthiness and reach based on a strong ability to generate social capital enables communities to substantially influence consumer buying behaviour, challenging the role of traditional brand-related advertising.

Examples of social networking are websites such as MySpace⁴³ and LinkedIn⁴⁴ connecting younger audiences and professionals respectively. Examples of platforms designed around user generated content are Flickr⁴⁵, Mogulus and YouTube⁴⁶.

Communities that emerge around particular interests in dedicated mobile online spaces are particularly attractive for advertisers and marketers who seek to reach specific target audiences. For example AirG⁴⁷, a company that hosts and licences mobile social networking platforms, lets advertisers target subscribers via their Community Marketing Engine (CME). Using a combination of detailed user profile information and surveys, the CME identifies relevant consumer demographics like age, location, interests, gender and phone type. Furthermore, AirG offer advertisers to target audiences through specific sponsored special interest groups. For example, MTV Asia has built a highly successful community of music enthusiasts to which it cross-markets content and merchandise.

⁴³ www.myspace.com

⁴⁴ www.linkedin.com

⁴⁵ www.flickr.com

⁴⁶ www.youtube.com

⁴⁷ www.airg.com

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When reaching out to communities, mobile advertisers have to abandon communication based on interruption and move towards tactfully inviting participation and engagement. Some of most common measures for such kind of engagement marketing include:

- Participation in discussion threads in blogs, chat, moblogs, etc.
- Special content offered to community members such as exclusive previews, sponsored games, adver-games, etc.
- Word-of-mouth, viral marketing
- Real-time community information
- Audience activation via personalized SMS/MMS, Instant messaging, etc.
- Encourage support and testimonials by volunteers and evangelists

These community-oriented advertising measures will serve as a way to address target audience across multiple platforms, thus complementing Mobile TV-based advertising. These measures can go as far as inviting users to co-create and remix Advertisements which are then circulated within their communities.

Particularly the dynamics of fan communities that gather around popular TV content such as the series “Lost”, “24” or the “Simpsons™” present a strong opportunity for Mobile TV advertisers. This type of popular content generates a strong following and loyalty by defined audience segments as visible on their rich official and unofficial internet portals. Beyond targeting, advertisers can sponsor episodes and brand community portals, as well as offer dedicated mobile content (show-previews, exclusive episodes, games and ring-tones). Coupled advertising campaigns (targeting special service available on the mobile device when a standard advertising is broadcasted e.g. on TV) could assist a quick up-take and attraction of the mobile advertisements market.

6 BUSINESS MODEL AND STAKEHOLDERS

6.1 Advertising business model in transition

Fragmentation of media, emerging digital platforms and changing consumer behaviour are undermining the relationship between brands, creative's as well as media planners and media buyers. Since the mass-market arrival of digital TV and the Internet in the 1990s, consumers spend less and less time per TV channel⁴⁸. In 1980 for instance a large advertiser could cover approximately 70% of the population in most markets by advertising during the commercial break of that year's most popular commercial program. But today an advert during a popular program will provide, at best, a 30-40% coverage. The problem is audience fragmentation.

Consumers have multiple devices in their living rooms competing for attention during leisure time. TV has fragmented from five analogue terrestrial channels to hundreds of digital satellite channels. Many users today record their favourite TV programs on a hard disc recorder for later viewing and in doing so could skip the adverts. Meanwhile the Internet offers substantially more than a billion pages of information and digital media, as well as the facility to chat/communicate with friends. It is unsurprising therefore that consumers spend less and less of their time sitting on the sofa watching content from the incumbent broadcasters.

Creative concepts are required to ensure that consumers remain aware of brands. Advertisers are embracing new media by creating cross-platform marketing initiatives e.g. interactive TV advertisements driving viewers to entertaining websites. The trend is to be expected for mobile TV once sufficiently adopted.

6.2 Value chain

Figure 19 presents the generic advertising value chain. Scenarios for different categories of companies in the mobile advertising value chain. Actors marked in blue are central for most types of advertising while those depicted with dashed outline could be omitted in several cases.

⁴⁸ "Future of media" report (July 2007): "Despite an almost doubling of time spent watching TV since 1950 (in the US), the proliferation of channels resulted in rapidly decreasing time spent viewing per channel (i.e. from 12 to 3 hours)

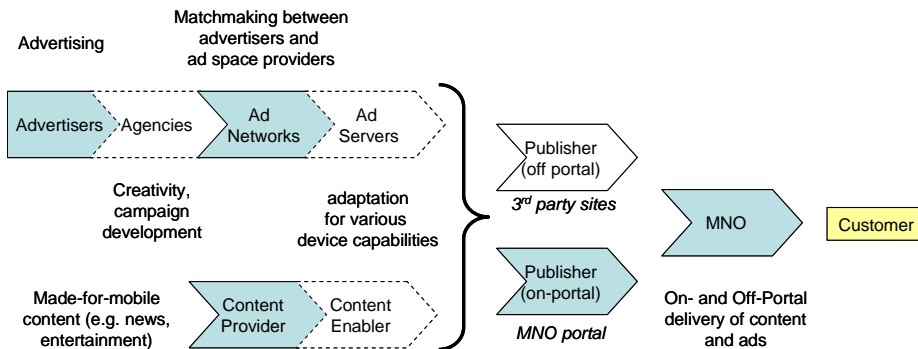


Figure 20 –generic advertising value chain

In addition the mobile ecosystem offers a unique customer feedback channel that can be utilised for a closed interaction and direct response for advertisers. Note that the feedback channel is not illustrated.

Value chain to be adopted as follows:

While there are several different types of advertising networks, the fundamentals are similar. The advertising network is essentially an intermediary that aggregates or purchases advertising inventory (i.e. banner advertisements, text links, rich media slots) from websites and sells this inventory to advertisers or agencies. The advertising network will typically group the different websites in its network into a number of verticals or content channels, typically 10 - 20, depending on the content of the site. Examples of different content channels include sports, technology, gaming, men's interest, women's interest, and teenagers. In addition to content channels, the advertising networks also target specific users based on a number of other factors including geography, demographics, time of day, and behavioural analysis. The advertising network typically offers a number of services to the advertisers as well including strategy, media planning, creative, optimization, campaign management, and reporting.

6.3 Web 2.0

Under the Web 2.0 umbrella, evolutionary changes are taking place in how users view the web and their role on it. Web 2.0 technologies and businesses give users more opportunities to interact, communicate and collaborate. Blogging has already exploded, changing the nature of online publishing, and RSS is beginning to see a similar rise in popularity. As these and related technologies become more mainstream, users increasingly will expect to use them to play a larger role in the process of creating and sharing information.

After years of treating the internet as just another medium, the media sector is finally experiencing the digital revolution. The Web 2.0 phenomenon, its emergence has clearly heralded a fundamentally different approach for the media industry. Traditional media (press, outdoor, cinema, radio and TV), with its top-down approach in which they broadcast (or print) predefined content for a large audience, is now in competition with blog forums and podcasts where a myriad of individuals put what they think is interesting online for the world to see. An audience is built on a bottom up approach that is extremely versatile.

The problem is that the success of these new experiments is shifting the rules of the advertising game. When considering buying a new car or choosing a movie, the Web 2.0 consumer pays at least as much attention to user comments in forums as to articles in the professional press. TV advertisements may trigger a desire for a particular car, but for the car manufacturer, it is now as important to have a favourable write-up in the blogosphere as it is to get good press coverage. This has triggered a serious rethinking of the advertising value of different media.

6.4 Mobile advertising

As mobile advertising is emerging as a new promising category, its value chain is to be considered as a subset of the generic advertising value chain covered in the previous paragraph. The role of the “operator” will be played by Mobile Network Operators (MNO's).

A distinction should be made between on- and off-portal content. Mobile TV and Video on Demand could generally be classified as on-portal content, as the MNO typically purchases this type of content for its customers. Websites visited by mobile users are however increasingly off-portal. MNO's are expected to leverage their on-portal content with appropriate advertising by working with advertising networks. With the growing popularity of mobile browsing and mobile TV & video, advertising networks will add mobile websites to their portfolio. Growing mobile on- and off-portal audiences will jointly drive the mobile medium's attractiveness for advertisers.

Similar to the online advertising convergence will also emerge on the mobile advertising market. MNO's, channels and the Internet Big Five are key existing actors in this new value chain. In the table below, key motivators are indicated.

Mobile Advertising Motivations Within the Value Chain				
Advertisers and Agencies	Enablers	Publishers	Service Providers	Customers
<ul style="list-style-type: none"> - Losing eyeballs in traditional forms of media (television, print) - Need reach and breath of audience - Want early-mover advantage - Need metrics of efficiency: ROI - Appeal of localized, personalized targeting - Another touch point for integrated experience 	<ul style="list-style-type: none"> - Stake early claim in market - Take risk for early position and hope for outrageous reward - Pure-play vendors want to create a market for their technology - Integrators looking to position in growth category 	<ul style="list-style-type: none"> - Another revenue stream - Take control of business models - Position for growth as an extension of internet business models - Grow advertising revenue across platforms - Balance between going alone and cooperating with behemoth carriers that possess and control customers 	<ul style="list-style-type: none"> - Grow data revenue and data service appeal - But declining ARPU from basic connectivity - Take a share on network traffic - Differentiate service plans from competitors plans - Leverage "three-screen appeal" to advertisers - Protecting consumer privacy while leveraging consumer context 	<ul style="list-style-type: none"> - Getting localized and personalized information - Multimedia and entertainment - Cheaper or free content, services and devices through sponsoring

Table 05 –Mobile Advertising Motivations within the Value Chain ⁴⁹

The power in the mobile advertising ecosystem appears to be concentrated at the ends: the advertisers and the MNO's. Each of these ultimately could dictate the growth rate of the advertising market. It should be noted however that those two actors alone are most likely unable to unleash the huge potential of mobile advertising. Advertising networks are expected to play a crucial catalyzing role to (ultimately) create a global mobile audience.

Mobile advertising does not exist without a funding source, namely advertisers and agencies. Ultimately, advertising will migrate to the platforms that produce the best metrics of performance, requiring both effectiveness and transparency of performance. However until the advertising ecosystem, metrics and measurement become more transparent within mobile, advertisers are expected to continue to limit their mobile advertising spending.

6.5 Metrics

With the rise of new digital platforms, the relationship between advertiser, media buyer and media outlet is changing. Many new media outlets are emerging, new measurement methods geared towards targeted advertising are being developed and more advertisers are going direct, cutting their media buyers from the traditional value chains.

⁴⁹ Based on Yankee Group (2007)
Ver.1.0

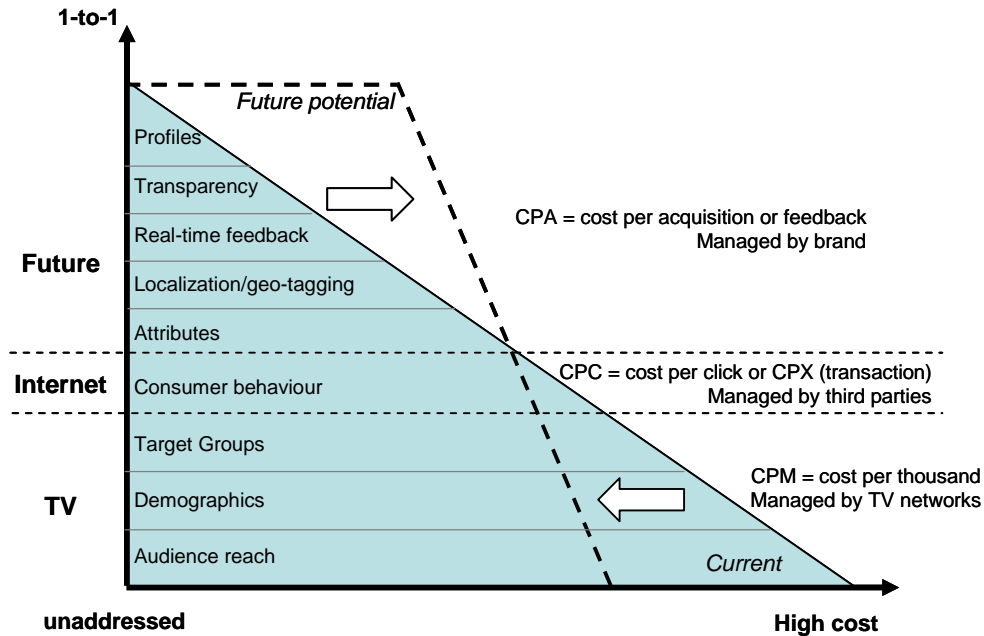


Figure 21 –new and old media measurement systems conflict ⁵⁰

The industry has a long way to go before it can reach consumers no matter where they are, what they are doing and which content they are watching. However new and old media measurement systems conflict (see figure 21). Only when the industry would agree on new standards to reach the fragmented audiences will we see a major budget shift from traditional media to new media.

TV is not perfect, but it is still the largest medium enjoying the inertia of a well established advertising business model. Despite the growth of new devices which are competing for consumers' finite leisure time, the TV industry still remains the best way to advertise to a large number of people simultaneously, in any country. The audience levels are certainly down from the peaks of a decade or two ago, and the fragmentation of the channels is without a doubt frustrating for large advertisers, however TV remains and is likely to remain for a considerable time to become an efficient manner of reaching a large percentage of the population.

6.6 Critical success factors

Cross mobile network advertising connectivity needs to be addressed – this will help with issues of scale and audience. Advertisers don't care which

⁵⁰ Based on illustration in "Anywhere Advertising Creates Chaos and Opportunities" (Yankee Group - 4 May 2007)

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mobile network their clients are on, they just want their message to get in front of as many people as possible.

Universally recognised mobile advertising metrics and measurements need to be established. Unlike print publishing and traditional TV, there are no established metrics in place for the mobile environment.

Consistent, standardised advertising formats are needed for the different mobile inventory, for example, what is the appropriate size for banner advertisements on a mobile phone is, what is the best length for video advertisements is.

There needs to be more clarity around business models. It should be clear how revenues will be shared player players.

Offering mobile advertisements as well as benefiting from taking the lead driver position could be the most important critical success factor. However, this depends largely on the size of the (subscribed) user database-and usually (similar as in web 2.0) the first one to offer the service will have the largest audience. Hence, there is a need to manage and build up a transparent market for mobile advertisements that can be used by all stakeholders, advertisers and/or agencies.

The created value could be in the delivery of the advertisements as well as in the selling of the data management and handling. Furthermore, in this scenario, the MNOs would keep the control over the advertising channels which would be more comfortable for the users as they rely on the trust relationship with their MNO.

7 SELF-REGULATION

Variations between national advertising regulation implied that, historically, international advertising was fraught with difficulty. Within Europe, much of this inconsistency was addressed in the 1989 Directive “Television Without Frontiers” (89/552/EEC), but new technologies – including the Internet and mobile – continue to present advertising with further challenges. Thus, increasing co-operation between national self regulatory associations has been a logical step, both to address cross-border issues and for mutual support.⁵¹

7.1 European Advertising Standards Alliance (EASA)⁵²

Based in Brussels and founded in 1992, the European Advertising Standards Alliance (EASA) is a non-profit organization bringing together national advertising self-regulatory organisations (SROs) and organisations representing the advertising industry in Europe.

EASA was founded with the following objectives:

- Promotion and development of self-regulation in the advertising sector;
- Support of existing advertising self-regulatory systems ;
- Management and coordination of EASA's cross-border complaints mechanism to ensure that cross-border complaints - through a specific procedure - are resolved speedily and effectively
- Provision of information and research concerning advertising self-regulation.

Currently 32 Self-Regulatory Organisations (SROs) are in EASA membership. 26 of these are from 24 European countries and the other 6 are from non-European countries⁵³. Furthermore, 15 European advertising industry federations (Advertisers, Agencies, Media and other) are currently EASA members.

EASA publishes the Blue Book every 2-3 years. The 5th edition, fully revised and updated for 2007, provides a comprehensive overview of self-regulatory systems in Europe.

⁵¹ Juniper Research Ltd (2008): Mobile Advertising: Delivery Channels, Strategies & Forecasts, 2008-2013. p. 56

⁵² <http://www.easa-alliance.org/>

⁵³ Current members include: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Hungary, Luxembourg, Netherlands, Poland, Portugal, Romania, Russia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom; Canada , New Zealand, South Africa, Brazil, Australia, India

7.2 Mobile Advertising Self-Regulation

The Mobile Marketing Association (MMA) has adopted a series of content guidelines drawing heavily on the MMA's Consumer Best Practice Guidelines for Cross-Carrier Mobile Content Programmes, published in December 2007 and directed at the US market.

These include the following key points:

- Advertisements may not be misleading or deceptive to the recipient in any way;
- Advertisements promoting illegal services and products are not allowed;
- The sponsor of any advertising message should be clearly identified either on the advertising itself or on the resulting first-level jump page;
- Special categories of products must comply with existing voluntary industry guidelines;
- Any advertisement for regulated products must comply with existing guidelines for such advertising;
- Advertisements should be age appropriate;
- Potentially controversial advertisements should be avoided, but may be reviewed on a case-by case basis by network operators and publishers;
- All claims made in an advertisement must be substantiated before the advertisement is scheduled
- Advertisements cannot promote or glorify violence, crime, obscenity, the use of weapons or provide instructions on how to "get away with" crimes or unlawful activity;
- Language that is offensive, disturbing or likely to cause outrage, general disapproval or negative opinion within the community is not allowed.
- The mobile advertising ecosystem has to offer an opt-in/opt-out possibility to allow for user control.

7.3 Regulatory Issues

Regulation has a significant impact on the mobile content space. This is a direct consequence of digital convergence, where an increased number of new digital media platforms and channels carry a great amount of services and content. In this respect, regulation will also have a fundamental impact on the development of mobile advertising market. Guidelines need to be considered for regulation of mobile content, the broadcast networks for the delivery of mobile TV, as well as for advertising techniques for mobile channel.

Some of the programming (from advertising-funded TV channels) that is being broadcast on mobile TV platforms retains the original advertisements, which raises questions as to whether there will need to be new contractual agreements set up between the brands, advertising agencies, the broadcasters and mobile operators to carry the advertisements on mobile. The key question is whether or not broadcasters need to clear the rights separately to show TV advertisements over digital channels.

Other issues such as inserted overlay and split screen will only be feasible if authorised by the regulator as well as by the vast majority of the right owners. This type of Advertising is ideal for voting and click-through to M-Commerce websites. Currently, it is not clear whether regulators will mandate 'acceptable behaviour' for Mobile TV client applications.

Pricing is Key in terms of determining whether consumers are going to be prepared to pay for data charges that are effectively being used to deliver advertising content, or whether they are going to be prepared to accept advertising in exchange for cheaper or free content.

8 RECOMMENDATIONS

As applications gain popularity, there is also a huge opportunity for advertisers and brands to effectively deliver customized communication, including promotions, to a highly segmented target group. Mobile operators should make every effort to maintain and extend their competitive position by developing practical responses to the different challenges posed by mobile advertising.

To overcome these challenges, industry players need to be enabled to (data) mine operators' wealth of data on their subscriber base, but subscribers' privacy needs to be respected. And then a revenue-sharing model favourable to all participants, along with the consumers, needs to be established. The revenues accrued from advertisements need to be passed to the customers in the form of less expensive mobile services and more relevant value-added services.

- **Define mobile advertising standard:** Standard mobile advertising is still centred on SMS advertising and Web banners. Additional formats are required in order to create greater value. Defining standard inventory categories will give advertisers and advertising agencies confidence in a manageable number of services from which they can expect measurable returns.
- **Mobile Advertising ecosystem:** The vast diversity of mobile platforms, display sizes and resolutions, device capabilities and mobile operating systems are far greater than that of PC's. In order to untap the huge potential of mobile advertising, it will be crucial to create a unified approach regarding adopting Advertisements to mobile device

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peculiarities as well as to ensure data anonymisation as well as appropriate upstream reporting to actors in the advertising value chain.

Furthermore the mobile Advertising eco-system should facilitate independent auditors to perform their crucial activities to make sure advertisers get confirmation that reporting is accurate.

- **Combine Advertising platforms:** The ability to integrate mobile with other (online) advertising channels will be crucial if significant marketing budget is to be dedicated to the mobile industry.
- **Leverage customer data:** The greatest area of untapped value in mobile service provision is customer data. Mobile advertising can offer a combination of relevance and location, age and this could represent real value for advertisers. Consumers perceive a huge disparity in value between unwanted, negative contact experiences and positive, user-initiated relevant marketing. Mobile operators should take into account the fact that consumers tend to start with a positive disposition towards any service they have requested or to which have “opted in”.
- **The need of Metrics:** Further, effective metrics need to be established to measure the consumer acceptance and effectiveness of mobile advertisements. There should be clear and well publicised examples of successful applications of mobile advertising. Common metrics and measurement processes for mobile advertising are therefore very important.

It is paramount to initiate or continue collecting insights from customer pilots and exploratory real-life test beds and to accustom users to new formats of advertising in different online channels. The annoyance factor is a serious issue, which is why mobile advertising will only flourish in an environment where the advertisements are either agreed to by the subscribers or are extremely targeted and relevant.

Meanwhile, a study of user metrics by M:Metrics and BMPR, a leading UK-based market research agency that supplies data to advertising agencies on brand usage in more than 60 countries, points to how effective mobile advertising can be both as a revenue stream for operators and as a traffic generator.

The study finds that users of mobile media are more responsive to advertising than users of the Internet across all the BMPR's measures. Almost 27 per cent of the UK population are more likely to agree that they are tempted to buy products they've seen advertised: 27 per cent more likely than the average British adult, in fact. Nevertheless, it is almost impossible to assess at present whether money spent on mobile advertising is effective or simply being thrown, almost literally to the wind.

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- **Metrics on Usage:** What is needed is metrics on usage. The M:Metrics BMPR tie up offers part of the service, but more needs to be done to deliver the kind of holistic view of mobile advertising that can show not only how it fits in to the advertising mix, but how to most efficiently use it.

As the mobile marketing and advertising ecosystem continues to grow, operators across the globe will continue to experiment more with advertising, which will enable more advanced advertisements over streaming video and mobile TV.

Mobile TV offers the mobile industry a way of engaging with advertisers via a model that they are familiar with. There are a number of considerations for mobile operators in relation to deploying a mobile TV advertising strategy, many of which involve the operators working together with other players in the value chain in order to maximise the potential revenue from advertising. If operators are to exploit the full benefits of mobile advertising, interoperability is Key to ensuring that advertisers are able to advertise across platforms, which will make it easier for operators to sell their inventory space and give increased economies of scale in terms of audience reach.

- Standardized interfaces between stakeholders within the value chain are required.

9 WHO IS DOING WHAT FOR MOBILE ADVERTISING?

Unanimis, one of the UK's leading digital advertising networks, claims to be the first traditional internet specialist to launch a premium mobile advertising network. Since 2001 Unanimis has built strong relationships with Media Agencies and Owners and they now look to Unanimis to deliver a trusted, strong mobile advertising network that bridges the gap between WAP publishers, premium content owners, licence holders and the ever-growing mobile internet audience. New customers include: Lovefilm, The AA, Five, Blinkbox and OSOYOU.

Marketing company OgilvyOne has teamed up with messaging and charging company Acision to use the latter's mobile delivery capability for mobile marketing and advertising. Integrating the two companies' capabilities, the partnership will deliver the technologies and the necessary expertise for an end-to-end Customer Value Management solution, enabling carriers to unlock the revenue generating potential that resides within their data.

Admoda is now offering network operators a suite of unique features to fully monetise their entire inventory. Advertisements are highly targeted and can be delivered in a number of MMA recommended formats to suit the Operators particular requirements. There is also a solution, using Adultmoda, whereby carriers can monetise their 18+ inventory with advertisements which are only suitable for age verified 18+ users. Adultmoda can present a strong business case for this, having already run a number of highly successful Age Verified on-deck campaigns, with repeat bookings from the advertisers in the regions of 90 per cent.

Building on its experience at pan-European advertising-funded network Blyk, Airwide Solutions' Mobile Advertising Solution lets operators tap directly into messaging and browsing streams enabling unprecedented control for campaign execution. Unlike other solutions, the Airwide Mobile Advertising Solution also enables proactive discovery and targeting of appropriate advertising content to recipients based on their preferences, history and profile information.

With a robust, flexible and proprietary platform, MMCast is one of the first mobile technology companies that allows advertising to play during content downloads, with neither delay nor inconvenience to the user.

JumTap, a leading mobile search and advertising solutions provider, has signed a multinational deal with TeliaSonera, the leading mobile operator in the Nordic and Baltic regions. This strategic move will see JumTap deploy a comprehensive search and advertising solution across seven different network operators in Sweden, Spain, Denmark, Finland, Norway, Estonia and Lithuania.



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More than 600,000 users have signed-up for Gigafone's mobile advertising proposition since it launched in Russia in 2005. In return for providing profiling information, users receive highly targeted, relevant advertising and advertiser-funded rewards such as free call minutes, text messages or data bundles. The combination of user profiling and rewards within this permission-based service has contributed to click-through rates of between 40 and 55 per cent for campaigns by leading international brands in Russia.

ACRONYMS AND ABBREVIATIONS

A2P	Application-to-Person
BMPR	UK-based market research agency that supplies data to advertising agencies on brand usages in more than 60 countries
BSNL	Bharat Sanchar Nigam Limited
CAGR	Compound Annual Growth Rate
CPA	Cost per action
CPC	Cost per click
CPM	Cost per thousand
DCD	Dynamic Content Delivery, refers to the OMA DCD enabler
ESG	Electronic Service Guide
GDP	Gross Domestic Product
HSPA	High Speed Packet Access
HTML	HyperText Markup Language
IMG	IMG file format
MNO	Mobile Network Operator
MMS	Multimedia Service
MSN	Microsoft Service Network
RME	Rich Media Environment
SMS	Short Message Service
VoD	Video on Demand
WML	Wireless Markup Language