Global Mobile Trends and Enablers:

Current State and Future Outlook

Ciklum Industry Report

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INTRODUCTION

The year 2011 was marked with more innovations and developments in the mobile space than ever before. With healthy growth rates recorded in 2011 and optimistic predictions for the next few years, 2012 looks like the year of even more interesting mobile developments.

A wide array of factors contributed to the global growth of the mobile applications (apps) adoption in 2011. Among them are advancement of network technologies, reduction of mobile data usage costs, increased usage of smartphones, restructuring of the revenue-sharing patterns and a significantly increased full or partial subsidy of apps via mobile advertising options.

According to the Mobile Stats and Facts 2011, of the world's 4 billion mobile phones in use, around 1.1 billion were smartphones. In Q1 2011 the global mobile phone market ballooned with a 19.8% growth rate year-over-year due to a significant rise of smartphone shipments[1]. As estimated by IDC's Worldwide Mobile Phone Tracker, vendors shipped 371.8 million units in Q1 2011 compared to 310.5 million units in Q1 2010[2]. In North America, the mobile phone market was kept front and center by Apple's iPhone and HTC

[1] TechCrunch, April 28, 2011
[2] Ibid.

Thunderbolt, while in Western Europe it was ruled mainly by new devices from HTC, Samsung, and Sony Ericsson[3].

On the global scale, Nokia took the leading position in terms of shipment volumes and market share (although the latter dropped from 34.7% to 29.2 % year-over-year), followed by Samsung. Apple maintained its spot #4 on IDC's List of Top 5 Mobile Vendors (see Fig. 1).

The breaking news of 2011 was the launch of the partnership between Nokia and Microsoft in an attempt to regain ground lost to the iPhone and Android-based devices. The new strategy means Symbian and MeeGo, Nokia's existing smartphone operating systems, will be gradually sidelined. Symbian is being currently transformed into a "franchise platform", while "MeeGo will place increased emphasis on longer-term market exploration of next-generation devices," according to the company statement[4]. However, Nokia still expects to sell approximately 150 million more Symbian devices in the future[5].

[3] Ibid.
[4] BBC News, 2011
[5] Ibid.

Figure 1: Top 5 Mobile Phone Vendors, Shipments & Market Share, Q1 2010 – Q1 2011 (Units in Millions)[6]

	Q1 2011		Q1 2010		Year-Over-Year Change (%)
Vendor	Shipment Volumes (Mil)	Market Share (%)	Shipment Volumes (Mil)	Market Share (%)	
Nokia	108.5	29.2	107.8	34.7	0.6
Samsung	70.0	18.8	64.3	20.7	8.9
LG Electronics	24.5	6.6	27.1	8.7	-9.6
Apple	18.7	5.0	8.7	2.8	114.9
ZTE	15.1	4.1	10.4	3.3	45.2
Others	135	36.3	92.2	29.7	46.4
Total	**371.8**	**100**	**310.5**	**100**	**19.8**

[6] IDC Worldwide Mobile Phone Tracker, April 28, 2011

MOBILE STATS & FACTS: 2010 – 2011

Global Mobile Subscription Base – 6 billion active mobile subscribers, or 87% of the world's population

Global Mobile Web Usage - 1.2 billion active mobile-broadband subscribers, or 17% of the world's population

3G mobile network coverage – 159 countries, or 45% of the world's population

VC investment in mobile - $6.3 billion, or 42.4% of total budgets

Total value of mobile payments for digital and physical goods, money transfer and NFC transactions - $ 240 billion, expected in 2015 - $ 670 billion

Global Mobile Revenue - $2 billion in 2010, $5 billion in 2011, $8 billion expected in 2012

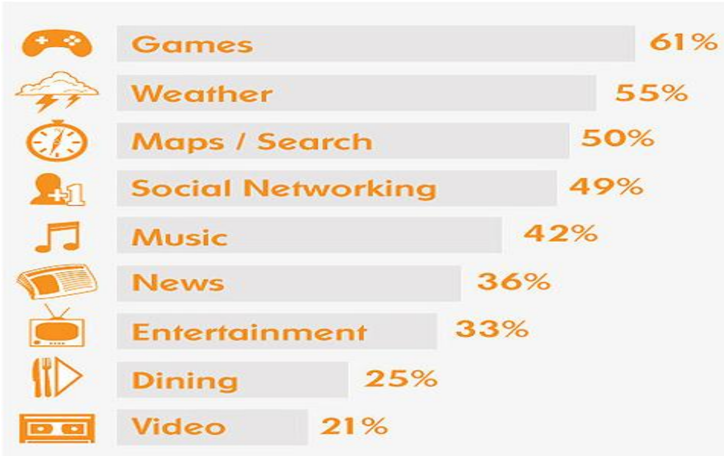
Mobile Market Enablers, according to comScore (as est. February 2011):

Region	Unlimited data plans	Smartphone penetration	3G / 4G Technologies	Mobile media
North America	29%	27%	50%	47%
Western Europe (EU5)	8%	31,1%	47,1%	37%

Source: mobiThinking, 2012

Regarding the overall mobile use patterns of 2011, 61% of people reported using their mobile devices to play games, 50% – to do a web search, 49% - to access social media, 36% – to read news and 33% - for general entertainment purposes[7] (see Fig. 2):

Figure 2: What People Use Their Mobile Phones For[8]



In 2011, over one third of the Facebook's 600 million user base used Facebook mobile apps, 50% of the Twitter's 165 million user base used Twitter Mobile and over 200 million YouTube views occured on mobile

[7] Digital Buzz, 2011
[8] Ibid.

devices every day. Overall, 30% of all smartphone owners accessed their social media accounts via mobile browsers in 2011[9].

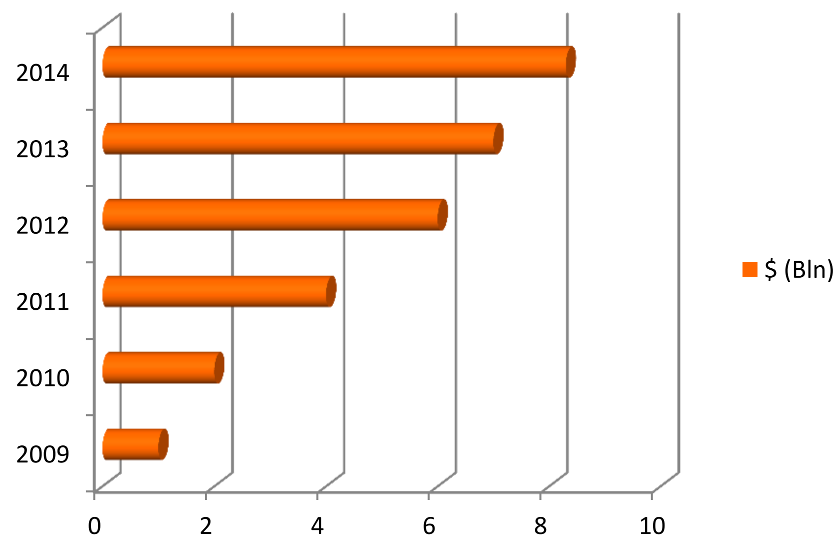
In 2011, many large brands started blending mobile technologies with their business goals in order to increase their presence in at least one of the top app stores. This has opened up new horizons for already booming mobile apps markets and creating new venues for the further market development. On the other hand, most of these brands did not aim to monetize their apps and only used them as an add-up to their brand equity[10]. Last year, the Apple App Store remained the overall leader and the "store of choice" for both brands and users. On the other hand, Android Market has gained a substantial ground with 50% of the global brands preferring to publish their apps in it during 2011. The newly introduced Amazon App Store has gained 14% of the brand mobile apps' publications in only three months of being around.

The world mobile app market was estimated at $6.8 billion in 2011, according to Markets & Markets, a US-based research firm. It is expected to grow steadily to reach $25 billion over the next four years, with the Apple App Store accounting for 20.5% of the total revenues[11].

[9] Digital Buzz, 2011
[10] Market Research News, 2012
[11] Markets & Markets, 2012

According to iSuppli, an IHS-owned market research firm, the collective revenues from Apple, Google, Nokia and Blackberry app stores grew around 78% in 2011 from 2009 and are anticipated to reach $8.3 billion in 2014[12] (see Fig. 3, 4):

Figure 3: Collective Revenues From Apple, Google, Nokia & Blackberry App Stores, 2009 – 2014



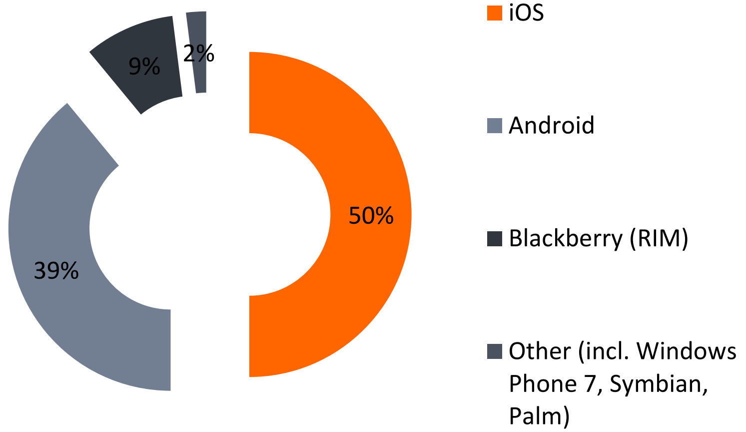
[12] BGR Media, 2011

Figure 4: Turnover of the Largest Mobile App Stores, 2010 – 2011

Store	2010, sales ($)	2011, sales ($)	Growth (%)
	1.78 bln	2.91 bln	63.4
android	102 mln	425.3 mln	295.4
BlackBerry App World	165 mln	279.1 mln	69.2
NOKIA ovi	105 mln	201.4 mln	191
Total	2.15 bln	3.8 bln	77.7

In 2011, Apple held the major mobile apps market share in terms of the revenue generated (see Fig. 5).

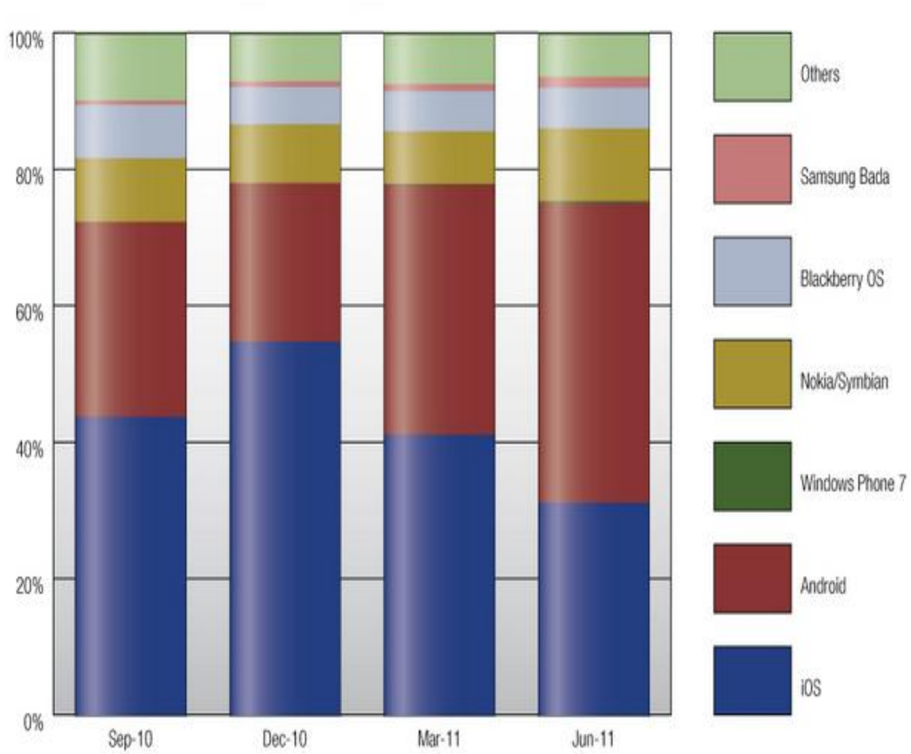
Figure 5: Application Platform Mix Ranked By Revenue, 2011[13]



However, in terms of mobile app downloads, Android outpaced Apple, according to the data from ABI research (see Fig. 6).

[13] BGR Media, 2011

Figure 6: Quarterly Mobile Apps Downloads Market Share, 2010 - 2011[14]



EIGHT TRENDS THAT RULED THE GLOBAL MOBILE MARKET IN 2011

1. Near Field Communications (NFC) Technology

In 2011 Sprint Nextel joined forces with a variety of handset makers and technology companies to implement NFC payment systems. Google used VeriFone Systems and ViVOtech software to run the test service in five US cities. The Google NFC-enabled services allowed consumers with specially equipped phones running on Google's Android OS to pay for goods and redeem coupons with their handsets at NFC-equipped cash registers[15].

2. iPhone 4S

Many expected Apple to introduce its next-generation iPhone 5 in the 2011 "Let's Talk iPhone" event. Instead, Apple unveiled its iPhone 4S, the "smartest" smartphone ever. Equipped with an 8-megapixel camera, iCloud capabilities and Sprint network access, it comes with the powerful voice recognition software and other innovative features. Apple reported to have

14 VentureBeat, 2012

15 Bloomberg, 2011

sold over 4 million of its iPhone 4S devices in just three days after the official launch[16].

3. QR Codes

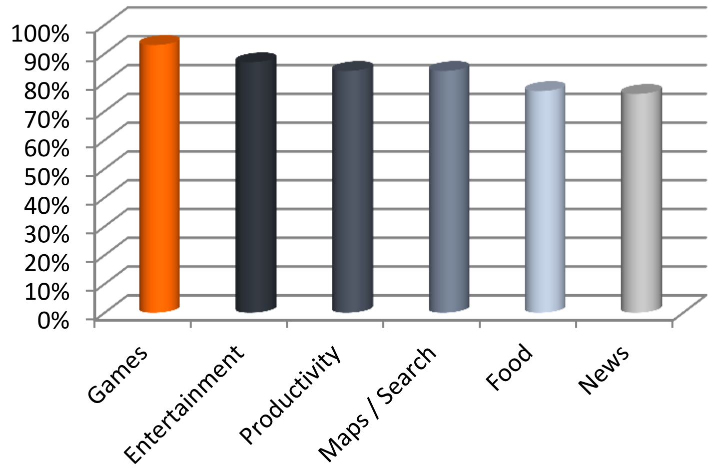
2011 was the year of a massive use of two-dimensional quick response (QR) codes in digital and print marketing campaigns. When a code image is captured by a mobile device or a tablet, the user gets immediate access to an abundance of brand's / product's information. With QR codes companies have a much better chance to easier and faster reach their target audience and stakeholders.

4. Increased mobile gaming

Games were the most popular type of apps among smartphone users in 2011 (see Fig. 2). According to the latest Report by Nielsen, last year many smartphone owners were ready to actually pay for mobile games – more that they would for any other app category[17] (see Fig. 7)

[16] Apple Press, 2011
[17] Mashable Tech, 2012

Figure 7: Apps That Mobile Phone Users Were Ready To Pay For In 2011



5. The Cloud

In 2011, Apple introduced its highly-anticipated **iCloud** service which allows storing music, photos, apps and more and pushing them automatically to all of the user's devices via a wireless technology. Google launched a similar music Cloud service allowing users to upload their music libraries and stream them from both mobile devices and PCs.

With these and other Cloud services available more mobile apps are expected to move to the Cloud in the near future and will be accessed and executed directly from the Cloud through a mobile web browser interface. To facilitate this change, several technologies are already used. For instance, HTML5 is used to enable caching on the handset and avoid fluctuations in network service delivery.

Additionally, in 2011 some providers of mobile solutions offered integrated mobile browsers to allow direct access to apps from the publisher's website and elimination of visiting app stores. It means that both app developers and publishers can now interact directly without involvement of / sharing profits with any third-party app stores.

6. 4G Technologies

In 2011, every mobile carrier announced its plans to update their networks to one of several faster cellular data technologies such as HSDPA, HSPA+ and 3GPP LTE. The carriers' investment in higher speeds and better bandwidth will help the industry to keep up with the exploding demand for mobile Internet during 2012. A vast majority of mobile devices already shipped in 2012 are 4G-enabled, even though they still actually connect to 3G and EDGE networks[18].

[18] InfoWorld.com, 2011

7. Augmented reality

Augmented reality (AR) refers to the addition of a computer-assisted contextual layer of information over the real world, creating a reality that is enhanced or augmented. Although different forms of AR such as head-mounted displays have been around for over 30 years, in 2010 and 2011 AR evolved from being a cool gadget on the periphery of visualization and graphics technologies to a central player in the technology landscape due to the increased bandwidth and adoption of smartphones.

AR proliferates rapidly into various domains from education to tourism / traveling to video production etc. Many AR apps such as Layar use GPS positioning and geo-tagging to annotate existing spaces with an overlay of information and 3D images and characters.

8. Mobile advertising

According to Stephanie Baghdassarian, Research Director at Gartner, "mobile advertising is now recognized as an opportunity for brands, advertisers and publishers to engage consumers in a targeted and contextual manner, improving returns." In 2011, mobile advertising budgets were set to increase tremendously across the various categories and regions. The global mobile ads market generated around $3.3 billion in 2011, **more than double** the $1.6 billion generated in 2010[19]**.**

[19] CommsMEA, 2011

MOBILE MARKET EXPECTATIONS FOR 2012

In 2012 we will most likely see[20]:

- Increased investments in NFC technology across handset makers and carriers
- Improved in-app billing security
- More location-based mobile commerce solutions allowing users to check in to a store to alert a retailer of their presence or to add items to a shopping cart simply by taking their photo or their bar codes photo in the physical store
- LTE 4G as a mainstream technology in North America and Western Europe
- iPads and tablets continuing to replace PCs as a business tool of choice
- Apple iPad 3 and long-awaited iPhone 5 with enhanced functionalities accommodating the high-speed LTE network and NFC technology
- Enhanced social sharing as a result of the smartphones' boom

[20] InformationWeek, 2012
Wamda, 2012
Sentersix, 2012
Forrester, 2012

- Extended mobile search to allow consumers to interact with results such as placing an order directly from the mobile phone, booking a ticket or making a hotel reservation
- Gamification as the ultimate way of engaging a new generation of users focused on converting their everyday experiences into game-like pursuits
- More object recognition (OR) apps allowing users to track their surroundings for specific objects of interest
- More unified communication (UC) clients for mobile instant messaging provided by over-the-top service providers such as Skype
- More powerful mobile email solutions through a series of technology enhancements enabling low-cost mobile extensions to existing e-mail services (Gartner expects mobile e-mail users to account for 10.6% of the global mobile user base by 2014[21])
- More organizations developing a strategic approach towards their mobile service delivery and differentiation (smartphones vs tablets)
- Tablet commerce (T-commerce) and e-wallet as two new buzz words
- Strategic partnerships between mobile carriers and popular video providers like YouTube or Vimeo to allow users to replicate their online behaviors on their mobile devices

[21] Sentersix, 2012

MAJOR MOBILE PLATFORMS COMPARED

Platform	Apps in Market	Cum. sales since launch until Q2 2011	Worldwide sales to end users (as of Q3 2011)	Devices	Target audience	Market status	Strong points	Weak points
iOS	500,000	$ 222 mln	15%	iPhone, iPad, iPod Touch	Stylish young people, early adopters, business users well-off people	Strong presence and growth in North America, Western Europe and Asia Pacific	User-friendly interface High quality camera performance and screen resolutions Closed system with free components Simplicity of usage Multitasking	High cost Software inflexibility Installing applications is only possible through App Store review No Adobe Flash support
android	200,000	$ 165 mln	52,5%	Samsung Galaxy, HTC Desire, HTC Hero, Droid, Nexus One, Nexus S	Mass audience, early adopters, young adults	Strong presence and growth in North America, Western Europe and other post-paid markets Growing sales of low-cost models in pre-paid markets	Open source OS Full integration with Google services Fairly inexpensive	Heavy dependence on the availability of Internet connection Issues with MS Office files
RIM BlackBerry	30,000	$ 163 mln	11%	Blackberry, Blackberry Playbook	Business users, early adopters	Losing market share in the USA Growing sales in pre-paid markets	Is an encrypted military-grade security system Strong in corporate	Relatively high cost of input to make full use of all functions Low number of apps

							deployment Excellent work with office files and corporate email services Instant email delivery Embedded RSS client	
symbian OS	54,000	N/A	16,9%	Nokia	Early adopters, mass audience	Limited to low-cost devices in developing markets Is being transformed into a “franchise platform”	Widely spread Relatively cheap	Poor quality of navigation, support for higher resolution screens, stability and performance Out-of-date user interface
Windows phone	18,000	N/A	1,5%	HTC – Pro, Surround, Trophy, Mozart, Omnia, Focus, Quantum, Optimus, HD	Early adopters, Windows Mobile / Nokia users	Phasing out	Widely spread Relatively cheap	No compatibility with older versions of software for WM 6.x and earlier

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ABOUT CIKLUM

Ciklum (www.ciklum.com) is a Danish IT outsourcing company specializing in nearshore software development by establishing and servicing clients' own development teams and/or centres in Eastern Europe, in Ukraine and Belarus. The environment of services and knowledge sharing within the company helps clients to market quickly and with less risk and minimal investment. Established in 2002, Ciklum employs more than 1,700 IT specialists with more than 160 global clients' own software development teams. Ciklum has six development offices in Ukraine, one in Belarus, and two in Pakistan, as well as representative offices in Denmark, Sweden, United Kingdom, Switzerland, Germany and the Netherlands. Ciklum is a winner of Red Herring 100 Europe 2009, recognized as CeBIT 2010 Top 20 innovative company delivering services/products for small and medium sized companies, and named the 2010 and 2011 Top 100 global services provider. Ciklum is rated best Ukrainian IT Employer 2010 and 2011 by DOU, the Ukrainian Community of Software Developers.

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