

# The Japan Mobile Internet Report

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## Carriers, Services, Content and Handsets

September 5, 2007

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# The Japan Mobile Internet Report

Japan is arguably the world's most advanced mobile market: 40% of mobile data revenues worldwide are being generated here, three quarters of the population are using the mobile web, and 4 in 5 users are on 3G devices. More than \$8 billion in revenues are generated from mobile content and mobile commerce alone, in addition to data access and mobile advertising.

The huge popularity and stunning revenues generated by Japan's mobile Internet ecosystem have been widely reported, but the reasons behind the success and how these lessons apply to other markets are little understood outside of Japan. Infinita K.K. and Mobikyo KK, publishers of Wireless Watch Japan, the premier source of online news on the Japanese mobile industry, have teamed up to produce an in-depth research report explaining the regulatory, technology and business decisions that made and makes the mobile Internet in Japan work – getting deep into carrier strategy, service case studies, user behaviour and technologies enabling it all.

Learn which lessons from Japan can be applied to create success in other markets worldwide, and which are unique to the country and will not transfer elsewhere. Get the complete background story, as well as detailed information on the hottest current developments that are bound to hit other markets as well:

**Carrier Strategy and Ecosystem Approach:** How carriers, content providers and handset manufacturers work together in creating compelling service offerings

**Mobile Search:** How search is transforming the mobile industry and breaking down the walls of the operator's walled gardens - how this affects the entire mobile value chain, and what new alliances are emerging as a result

**Mobile Music:** How flat rates for full track downloads and cross-platform (PC/mobile) music stores are changing the game, and how mobile music consumption compares to other digital music distribution channels

**Mobile Social Networking and User-Generated Content:** Why what's in its nascent stages elsewhere is fast becoming a mainstream market in Japan – learn how service providers and carriers tie in mobile gaming, avatars, news and more with mobile social media

**Mobile Payment and NFC Applications:** Why operators are pursuing non-traffic business opportunities in wireless payments, and how Japanese consumers are using their phones as digital cash, credit cards, train tickets and keys

**Mobile TV:** Why reception of mobile TV broadcasts is free in Japan, and how operators, broadcasters and marketers are working together to create new advertising formats

**Location-based Services:** Why location is a feature, not a service – and how mobile applications make use of locational information in anything from navigation to security and entertainment

**Mobile Advertising:** How it became a \$300 million market, expected to triple in the next 3 years - and how mobile advertising is shifting from traditional to search-based advertising and affiliate models

**Fixed-mobile Convergence:** How content providers deliver a seamless user experience across the PC and the mobile, and how carriers integrate their service offerings across both channels

# The Japan Mobile Internet Report

## Who should buy this report

Whether you are a mobile operator looking to benchmark some of the most innovative carriers worldwide, a marketer trying to understand where mobile advertising is headed and how brands should interact with their customers via the small screen, a mobile content provider looking for cutting-edge service ideas, a hardware manufacturer or an analyst in search of comprehensive information on the world's most advanced mobile internet market – this is what you should be reading.

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[www.infinita.co.jp/research](http://www.infinita.co.jp/research)**

## Company Profile Wireless Watch Japan/Mobikyo K.K.

Founded in 2001, Wireless Watch Japan is the original, independent news source dedicated to covering Japan's mobile industry, in English, providing in-depth and original coverage via news reports, streaming video & audio programs and a free email newsletter. Our membership includes managers, executives, analysts, engineers, marketers and researchers from Fortune 500 companies worldwide. A division of Mobikyo K.K., the company also organizes MobileMonday Tokyo networking events and operates the Mobile Intelligence Japan guided tour service.

## Company Profile Infinita Inc.

Tokyo-based Infinita was founded in 2005. Originally specializing in technical development and production of mobile websites and applications for the domestic market, the company has since expanded its services to deliver market intelligence and research, providing in-depth analysis from one of the world's hotbeds of technological innovation to a wide range of international clients. Companies relying on Infinita's services include Softbank Mobile, Deutsche Telekom and Itochu Electronics. In addition to the research partnership with Mobikyo K.K., Infinita is a strategic partner of the Mobile Consumer Behavior Lab at the International University of Japan in Niigata.

# Forward

By Daniel Scuka  
Chief editor  
Wireless Watch Japan

The huge popularity and stunning revenues generated by Japan's mobile Internet ecosystem have been widely reported by media everywhere since the start of the mobile Internet in this country in 1999. However, few of the specialist pundits and almost none of the general press have clearly explained why this unique-in-the-world success occurred in Japan first.

Further, as 3G (third-generation) mobile systems elsewhere in the world continue to flounder in tepid popularity and no real profits, it is becoming increasingly vital to identify and, insofar as possible, copy the technology and business decisions that were taken in Japan in the hopes of rescuing the massive amounts of money that carriers in Europe and North America paid for their 3G licenses.

Some would argue that the Japanese spend an inordinate amount of time on commuter trains, that they have a natural gadgety orientation or that Japanese thumbs are somehow different and that these account for why 3G here is so much better than 3G anywhere else. These arguments are simplistic and ill-informed: Japanese spend no more time commuting as a percentage of their overall work day than workers in many western nations; teens and youth in Germany or Canada love their MP3 players, iPods and game consoles just as much as Japanese love their phones; and a thumb is a thumb, regardless.

It may be uncomfortable for those outside Japan to accept, but the reasons for Japan's continuing mobile Internet success lie much more in the areas of regulatory policy and business culture than in the realm of end-user culture. In the same way that Japan's auto industry in the 1970s produced products far superior to those produced elsewhere, so too have the Japanese mobile carriers created a far superior product. And the government has helped.

In Japan, 3G licenses were granted at no cost, as the regulatory authorities recognized that the billions of Yen these would fetch would be better left in the pockets of the carriers for network infrastructure and terminal investment. As mobile Internet platforms - the famous i-mode being merely one of several - were expanded, regulators imposed strict guidelines, particularly on the still part-nationally owned NTT DoCoMo, such that services and content had to meet minimum standards (e.g. no adult content); carriers themselves imposed others, so that, for example, no advertising on 'official' mobile content sites was allowed nor links to off-portal sites (both are permitted now). Further, the regulators monitored the intense competition that already existed in the mobile market, and, in 2005, even took the unprecedented step of issuing three *additional* 3G licenses for three new carriers when it was felt that NTT DoCoMo had gained too much market power; this is also unique in the world.

On the technology side, carriers applied the same *kaizen* 'continuous improvement' philosophy that the car makers used two decades earlier, and they made certain that all features worked simply and reliably prior to hitting the market.

*Continued*

Page 2

# Forward

The i-mode and the other mobile portals adopted PC-web-standard HTML language (or minor variations thereof) for mobile content, phones were made compatible with cross-platform email, which could contain clickable links and images (SMS was retained, but only worked within carrier networks). Thus mail and web browsing via phone were truly just smaller versions of the web and email accessed via PC - and were fully compatible, given formatting, memory and display restrictions.

After the first i-mode phones, ring tones and color displays were introduced; then, successively, Java (for downloadable games and useful applications), then expanded Java, then Flash (a graphics display technology), then enhanced ring tones, then 3G networks themselves were turned on (enabling more content via a fatter pipe), then ring tones evolved into 'realtones' and then into full-track music with video, high-quality audio, greatly expanded memories, enhanced onboard software (in 2002 you could edit video clips on Toshiba phones, a feature which Nokia only released in 2006), and, most recently, terrestrial digital TV and embedded IC chips for cash, credit card and many other functions.

Every six months, consumers are given new reasons to upgrade to new phones, as new technologies are introduced to the market on new generations of handsets, each providing an incremental improvement in services and features. While the intense R&D cooperation and, indeed, specification control imposed by Japan's carriers over the terminal makers may be unique to Japan and have deep business cultural roots, there are no or few regulatory reasons why a similarly effective cooperation cannot be developed between carriers and terminal makers elsewhere, other than limitations self-imposed by short-range profit motives and lack of flexible imagination.

This leads to a consideration of the business decisions that Japan's carriers - and all members of the mobile ecosystem - have taken in creating and launching 3G services. There was no 'technology marketing'; brand names were devised for every new feature and service (this has relaxed a bit as the market has matured), and carriers spent lavishly to ensure that features were clearly explained, easy to use and provided a clear benefit. The huge cost of earlier 2G i-mode phones and later 3G handsets was strongly subsidized by the carriers, so the latest technology was, largely, accessible by all segments in the market. The up-front cost was earned back by (high) data and voice usage fees and by strong disincentives to churn: all carriers offer long-term discounts, group discounts, family discounts, etc.

The concept of the two-year 'burn-and-churn' contract period popular in the US and Europe was eschewed in favor of treating customers from Day 1 as though they would stay with a carrier for the long term. Some researchers have recognized this very strong spirit of *anshinkan* (customer orientation), a theme which permeates all aspects of Japan's consumer-facing business culture.

This discussion has only briefly touched on a few of the success factors underpinning Japan's mobile Internet, but we can already see that success has had little to do with how Japanese people are different and much more to do with how Japanese mobile businesses think differently.

*Continued*

# Forward

To be fair, some analysts have identified flaws in the Japanese model, pointing out that innovation, while strong, is slow to evolve, that voice and data fees have remained high (even flat-rate data tariffs impose a high minimum 'floor' fee), that the carrier-led nature of the ecosystem have enabled too many profitless, 'walking-dead' handset makers to struggle on, and that the Japanese themselves have failed at exporting their know how, evidenced by NTT DoCoMo's moderate-at-best success with i-mode in Europe and the retreat of Japan's content providers and handset makers from the European market.

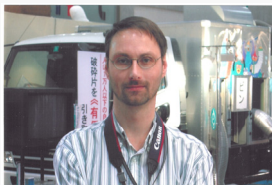
But these flaws pale in light of the strong commercial and social success that mobile and 3G have won in Japan proper. This is not to say that, after the fact, might makes right, but rather to reply to critics directly: if the Japanese model is flawed, then when will we see mobile markets elsewhere generate their own, improved brand of 3G success?

And it is no longer simply a question of measuring success by profits alone. As the Internet becomes increasingly crucial to the top G8 (or G25) economies, as the Web evolves into Web 2.0, as B2B interchanges move increasingly online, and as more cross-border industries look to the Internet as the strongest consumer-facing channel, the strength of any country's mobile Internet sector is becoming strategically vital.

How much longer must we wait for business leaders, eco-system players, market innovators and regulators elsewhere to take the same initiatives as those taken in Japan in 1999, at the start of i-mode, and in 2001, at the start of 3G?

Daniel Scuka, June 2007

*Daniel Scuka is chief editor at Wireless  
Watch Japan and co-founder of Mobikyo KK*



# Table of Contents

Chapter	Topic/Title	Page
	Foreword	2
	Table of Contents	5
1.	Carrier Overview	13
Fig. 1.1	Market Share of Mobile Network Operators in Japan, 2007	13
1.1	NTT DoCoMo Overview	13
1.2	au KDDI Overview	14
1.3	SoftBank Mobile Overview	15
2.	Carrier Strategy	16
2.1	NTT DoCoMo Strategy	16
Fig. 2.1	DoCoMo's Growth Strategies	16
2.2	au KDDI Strategy	17
Fig. 2.2	Evolution of au KDDI 3G Network	17
2.3	SoftBank Mobile Strategy	18
Fig. 2.3	SoftBank Group Structure	18
2.4	Additional Carrier Strategy Observations	18
2.5	Willcom Strategy (PHS - Personal Handyphone System)	20
3.	Future Carriers	21
3.1	EMOBILE	21
3.2	IP Wireless	22
4.	Carrier Financial Data	23
4.1	NTT DoCoMo Financials	23
Fig. 4.1	NTT DoCoMo Fiscal Year 2006 Earnings	23
4.2	KDDI Financials	24
Fig 4.2	KDDI Financial Indicators	24
4.3	SoftBank Mobile Financials	25
Fig. 4.3	SoftBank Financial Data	25
4.4	ARPU	26
Fig. 4.4	SoftBank Mobile, DoCoMo and au Voice/Data ARPU	26
5.	Voice and Data Services Pricing	27
5.1	NTT DoCoMo	27
5.2	au KDDI	28
5.3	SoftBank Mobile	29

# Table of Contents

6.	Mobile Ecosystem Approach	30
Fig. 6.1	i-mode Collaboration Concept	30
7.	Subscriber Trends	31
7.1	Subscribers Market Share	31
Fig. 7.1	Cumulative Subscriber Number by Carrier, annual, 1998-2007	31
Fig. 7.2	Net Subscriber Additions by Carrier, monthly, 2005-2007	31
Fig. 7.3	2G vs. 3G Ratio, 2005-2007	32
Fig. 7.4	Churn Rate by Carrier, monthly, 2005-2007	32
8.	Mobile Content and Services Market	33
Fig. 8.1	Mobile Content and Commerce Revenues, 2003-2006	33
Fig. 8.2	Mobile Content Revenues by Segment, 2003-2006	34
Fig. 8.3	Mobile Commerce Revenues by Segment, 2003-2006	35
9.	Messaging	36
9.1	Mobile Email	36
Fig. 9.1	Mobile Email Usage Frequency	37
9.2	Decomail	38
Fig. 9.2	Branded Decomail from Subscription Sites	38
9.3	Service Examples: Softbank 3D animated Emoticons and Yahoo! Mocoa Client	39
Fig. 9.3	Deru Moji Mail	39
Fig 9.4	Yahoo! Mocoa	39
10	Mobile Search	40
10.1	Service Examples: au KDDI and Google	40
Fig. 10.1	Effect of Google Mobile Search on EZ Web Traffic and Advertising	40
10.2	Service Examples: SoftBank Mobile/Yahoo! and DoCoMo's Multi-Engine Search	41
Fig. 10.2	Google Search on EZ Web, DoCoMo Multi-Engine Search, Yahoo! Mobile on SoftBank	41
11.	Off Deck vs. On Deck: Official vs. Inofficial Sites	43
12.	Mobile Music	45
12.1	Mobile Music Sales	45
Fig. 12.1	Mobile Content and Commerce Revenues, 2003-2006	45
Fig. 12.2	Mobile Music Revenues by Category, 2003-2006	46
12.2	Digital Music Sales	47
Fig. 12.3	Sales Figures for Digital Music Delivery, 2006	47

# Table of Contents

12.3	History 1999-2002: Chaku-mero (Polyphonic ringtones)	48
12.4	History 2002-2004: Chaku-uta (Real tones)	49
12.5	History 2004-2006: Chaku-uta full (Full track downloads)	50
Fig. 12.4	Advertising for au KDDI Music Handset by Toshiba	50
12.6	Cross-platform Music Solutions	51
12.6.1	Service Examples: au KDDI's LISMO	51
Fig. 12.5	au KDDI's LISMO System	51
Fig 12.6	Music Community utatomo on au KDDI' LISMO	52
12.6.2	Service Examples: NTT DoCoMo's Napster To Go	53
Fig. 12.7	Promotion for DoCoMo Service on Napster Japan Website	53
Fig. 12.8	Awareness for Napster To Go Service	54
12.7	Flat Rate Billing for Full Track Downloads	55
Fig. 12.9	Awareness for Uta houdai Service	55
Fig. 12.10.	Interest in Uta houdai Service	56
Fig. 12.11	Reasons for Non-use of Uta houdai Service	56
12.8	Mobile Full Track Download Usage	57
Fig. 12.12	Usage of Chaku-uta Full among Users with enabled Handsets, 2005-2006	57
12.9	Mobile Phones as Music Players	58
Fig. 12.13	Preferred Device for Portable Audio Consumption	58
Fig. 12.14	Intended Device for future Portable Audio Consumption, 2006	59
Fig 12.15	Intended Device for future Portable Audio Consumption, 2005	59
12.10	Usage Context of Mobile Music	60
Fig. 12.16	Purposes of Mobile Music downloaded	60
12.11	Usage Frequency of Mobile Full Track Downloads	61
Fig. 12.17	Number of Ringtones and Full Tracks downloaded per Month	61
13.	Mobile Games	64
Fig. 13.1	Mobile Content total vs. Mobile Games Revenues, 2003-2006	64
Fig. 13.2	Usage of Mobile Game Downloads, 2005-2006	64
Fig. 13.3	Number of Games downloaded per Month	65
Fig. 13.4	Frequency of playing Mobile Games	65
13.2	Carrier Comparison	66
Fig. 13.5	Number of Mobile Games Official Sites by Carrier	66
13.3	Casual versus Heavy Games	67
Fig. 13.6	Preferred Types of Mobile Games	67

# Table of Contents

13.3.1	Service Examples: DoCoMo 904i Series Motion-controlled Games	68
Fig. 13.7	Motion-controlled Handset Interaction	68
Fig. 13.8	Examples of Motion-controlled Games	68
13.3.2	Service Examples: DoCoMo Mega i-Applis	69
Fig. 13.9	Mega i-Appli Games on DoCoMo	69
14.	Mobile Manga and Books	70
Fig. 14.1	Samples of popular Mobile Manga Titles	70
14.1	Mobile Manga	71
14.2	Mobile Books	72
Fig. 14.2	"Deep Love" Book Cover and Movie Poster	72
15.	Mobile Commerce and Auctions	73
Fig. 15.1	Mobile Commerce Revenues by Segment, 2003-2006	73
15.1	Mobile Shopping	74
Fig. 15.2	Mobile Shopping Frequency	75
Fig. 15.3	Yearly Amount spent on Mobile Shopping	75
15.1.1	Service Examples: au KDDI Mobile Shopping and Auction Sites	76
Fig. 15.4	EZ au Shopping Mall on Mobile	76
Fig. 15.5	au KDDI Portfolio of Commerce Platforms	76
Fig. 15.6	EZ au Travel on Mobile; EZ au Auction Mobile and PC Versions	77
15.1.2	Service Examples: Rakuten	78
Fig. 15.7	Rakuten Mobile and PC Top Page	78
15.2	Mobile Auctions	79
Fig. 15.8	Total Mobile Auction Trading Volume, 2003-2006	79
15.2.1	Service Examples: SoftBank Mobile/Yahoo! Auction	80
Fig. 15.9	Promotion for Yahoo! Auction on Yahoo! PC Site	80
15.2.2	Service Examples: DoCoMo/Rakuten - Rakuoku	81
Fig. 15.10	Rakuoku listed on i-mode Top Menu; Mobile Auction on Rakuoku	81
16.	Mobile Digital Cash	82
Fig. 16.1	FeliCa System and Applications	82
16.1	Service Examples: Edy (Prepaid)	83
Fig. 16.2	Edy Client on FeliCa-enabled phone	83
16.2	Service Examples: Suica (Prepaid)	84
Fig. 16.3	FeliCa-enabled Handset at JR East Ticket Gate	84

# Table of Contents

16.3	Service Examples: JR East Suica; 7 Eleven Nanaco (Prepaid)	85
Fig. 16.4	Promotion for 7 Eleven's Nanaco Mobile	85
16.4	Service Examples: DoCoMo's Credit Card Platform iD/DCMX (Postpaid/Credit)	86
Fig. 16.5	DoCoMo iD Reader at a Store	86
Fig. 16.6	DoCoMo Handset with DCMX Application and Credit Card	87
Fig. 16.7	iD Platform System and Role of DCMX	88
17.	1seg Digital Mobile TV	89
17.1	1seg Overview	89
Fig. 17.1	Examples of 1seg Broadcasts	89
Fig. 17.2	1seg Handset by Sharp	90
17.2	Current State of the Market	91
17.3	Tie-ups between Carriers and Broadcasters	92
Fig. 17.3	Transmission of Electronic Coupons via 1seg	92
17.4	Challenges for Digital Mobile TV	93
18..	Mobile Social Media	94
18.1	Mobile Blogging	94
Fig. 18.1	Awareness and Usage of Mobile Blogging, 2005-2006	94
18.2	Mobile Social Networking	95
Fig. 18.2	SNS (PC and Mobile) Revenue Forecast, 2004-2009	95
Fig. 18.3	Awareness, Understanding and Usage of SNS	96
Fig. 18.4	Reasons for Initial Adoption of Mobile SNS by Age Group	97
Fig. 18.5	Most frequently used Features of Mobile SNS	98
18.2.1	Service Examples: mixi	99
Fig. 18.6	mixi, PC and Mobile Version	99
18.2.2	Service Examples: mobagetown	100
Fig. 18.7	Multi-Player Online Game; SNS Profile Page with Avatar on mobagetown	100
Fig. 18.8	mobagetown Business Model	101
Fig. 18.9	mobagetown Expansion Strategy	102
Fig. 18.10	NIKE-branded Avatar Items from Promotional Campaign	103
Fig. 18.11	Coca Cola-branded mobagetown Top Page	103
18.2.3	Service Examples: GREE/EZ GREE	104
Fig. 18.12	GREE Mobile Top Page, Profile Page with GREDEKO Decoration, EZ GREE Profile Page with Avatar	104
Fig. 18.13	EZ GREE Street	105

# Table of Contents

18.2.4	Service Examples: Chipuya Town	106
Fig. 18.14	Avatar Room/Main Menu, Item Shopping and Town Views on Chipuya Town	106
19.	Personalized Start Pages	107
19.1	Service Examples: au My Page	108
Fig. 19.1	au My Page on Mobile and PC	108
20.	Location-based Services	109
Fig. 20.1	au Handset with GPS and Navigation Software	109
20.1	Service Examples - Navigation: Navitime/EZ Navi Walk	110
Fig. 20.2	EZ Navi Walk on au KDDI	110
Fig. 20.3	PC Version of EZ Navi Walk	111
Fig. 20.4	3D Mobile Version of EZ Navi Walk	111
20.2	Service Examples - Search: GeoVector	112
Fig 20.5	Compass and GPS-based Mobile Search	112
20.3	Service Examples - Security: Children's Phones	113
Fig 20.6	au KDDI Children's Handset with GPS Security Functions	114
20.4	Service Examples - Recruitment: Otetsudai Networks	115
Fig. 20.7	PC View of Otetsudai Networks Application	115
20.5	Service Examples - Mobile Social Media	116
Fig. 20.8	DUOSNAP PC Site	116
20.6	Service Examples - Entertainment and Games	117
21.	QR Codes	118
21.1	2D QR Codes Usage, Technology and Applications	118
Fig. 21.1	Northwest Airlines "Giant QR Codes" Campaign, 2005	118
Fig. 21.2	QR Codes linking Yahoo! PC and Yahoo! Mobile Site Categories	119
Fig. 21.2	User-specific QR codes on mixi Mobile for generating Friend Request Emails	119
21.2	Audio QR Codes	120
Fig. 21.3	Audio QR Code Demo Application	120
22.	Mobile Advertising	121
22.1	Mobile Advertising Market Structure	121
Fig. 22.1	Examples of Mobile Advertising on i-Guide (DoCoMo's i-mode Site Guide) and on au EZ Web Keyword Search	121
Fig. 22.2	PocketAffiliate Network Model	123
22.2	Japan Advertising Market and Share of Mobile Advertising	124

# Table of Contents

Fig. 22.3	2006 Total Advertising Expenditures by Medium	124
22.3	Mobile Advertising vs. Mobile Content and Commerce	125
Fig. 22.4	Comparison of Mobile Advertising, Content and Commerce Revenues, 2005-2006	125
22.4	Adoption of Mobile Advertising	126
Fig. 22.5	Mobile Advertising Activity of large Japanese Corporations, 2005-2006	126
Fig. 22.6	Intended future Mobile Advertising Activity of large Japanese Corporations	126
22.5	The Shift towards Search-based Mobile Advertising	127
Fig. 22.7	Mobile and PC Online Advertising Expenditures (Traditional vs. Search-based), 2005-2011	127
22.6	The Shift towards Performance-based Mobile Advertising	128
Fig. 22.8	Compensation Models employed in Mobile Advertising, 2006/2007	128
22.7	Media Formats	129
Fig. 22.9	Media Formats employed in Mobile Advertising, 2006/2007	129
23.	PC Site Viewers	130
23.1	Overview	130
Fig. 23.1	au KDDI PC Website viewed on PC and through Mobile Phone's PC Site Viewer	130
23.2	Service Examples: au and DoCoMo PC Site Viewer Comparison	131
Fig. 23.2	DoCoMo Full Browser	131
23.3	PC Site Viewer Usage	132
24.	Mobile Imaging	133
24.1	Mobile Phone Camera - Still Pictures	133
Fig. 24.1	5 Mpx Cameraphone by Sharp for SoftBank Mobile	133
Fig. 24.2	Use of Mobile Phone Camera Functions, 2006	134
Fig. 24.3	Phone Pictures Use, 2004	135
24.2	Mobile Phone Camera - Video	136
Fig. 24.4	Interest in Mobile Video Calling, 2006	136
25.	Fixed-Mobile Convergence	137
25.1	Service Examples: KDDI's auOne Strategy	137
Fig. 25.1	auOne Mail on Mobile and PC	138
Fig. 25.2	Rebranding KDDI's PC and mobile ISP Services as Part of auOne	139
Fig. 25.3	auOne Portal on Mobile and PC	140

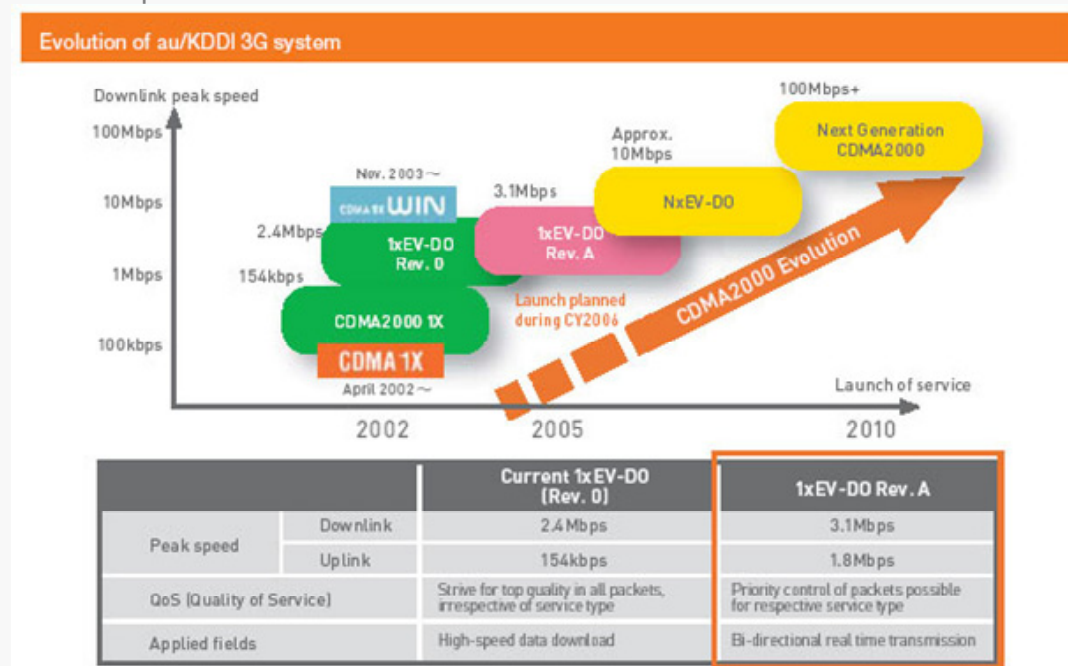
# Table of Contents

26.	Context: Japan's National IT Strategies	142
27.	Context: Towards 4G	143
27.1	4G R&D in Japan	143
27.2	Japanese Involvement in 4G Standardization	145
28..	Handsets	148
28.1	Handset Makers Overview	148
Fig. 28.1	Handset Subsidies System	149
Fig. 28.2	Handset Makers Market Share	149
Fig. 28.3	Top-selling Handsets of 2006	150
28.2	Handset Catalogue	151
28.2.1	DoCoMo Handsets	151
28.2.2	au KDDI Handsets	160
28.2.3	SoftBank Handsets	171
28.3	Features By Model	186
Fig. 28.4	Main Features/Model Overview	186
28.4	Design Niches	187
28.4.1	Business Handsets	187
28.4.2	Children's Handsets	188
28.4.3	Seniors' Handsets	189
28.5	Symbian Handsets	190
28.6	BREW Handsets	191
28.7	Flash Handsets	196
28.8	Browsers: NetFront by ACCESS Handsets	197
	Legal Note	202

## 2. Carrier Strategy

### 2.2 au KDDI Strategy

KDDI leverages the cost advantage provided by EVDO technology to offer au WIN subscribers its Double Flat Rate tariff option. This two-tiered, flat-rate discount plan for packet-switched data affords customers access to a rich variety of high-quality content for as little as ¥2,100 per month, including tax. In May 2005, KDDI introduced the Double Flat Rates Light plan, to encourage more users to sample content by cutting the minimum monthly flat-rate charge to ¥1,050. This offer successfully enticed many new users to try KDDI's flat-rate pricing system for mobile data services. About 80% of WIN subscribers have adopted one of these two discount plans.



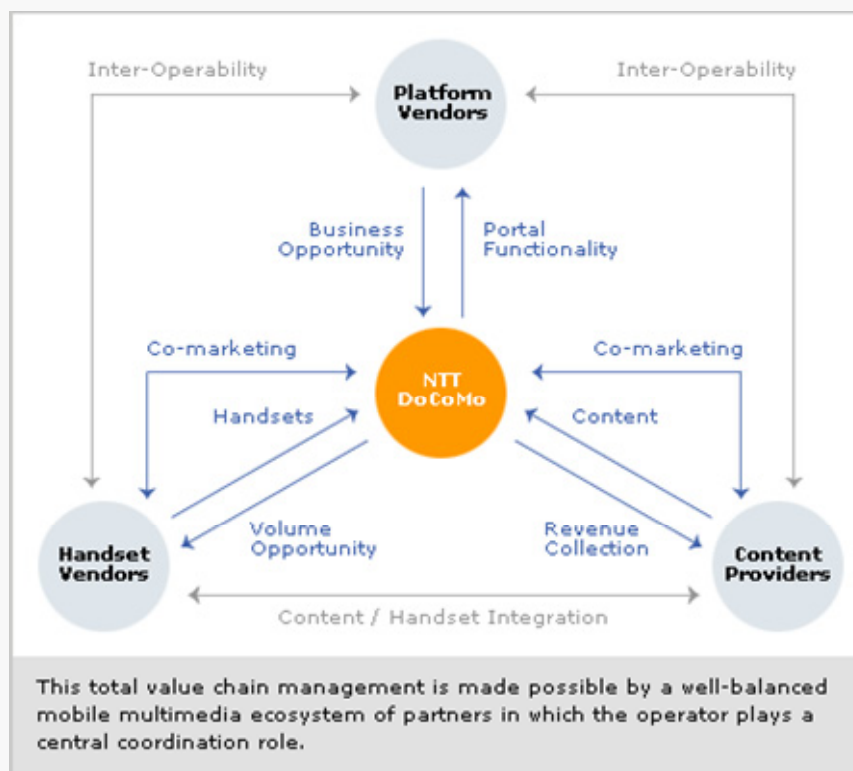
**Fig. 2.2: Evolution of au KDDI 3G Network**

In May 2005, KDDI took the first step toward building their Fixed and Mobile Convergence (FMC) Business when the company began offering customers a consolidated billing service for fixed-line and mobile services. In October 2005, KDDI Corporation absorbed the three TU-KA subsidiaries of TU-KA Cellular Tokyo, Inc., TU-KA Cellular Tokai, Inc., and TU-KA Phone Kansai, Inc. That same month, they began offering TU-KA subscribers the opportunity to transfer to the au service without having to change their numbers.

Growth in the overall mobile phone market in Japan has slowed over the past few years. Net additions in the year ended March 2006 equaled 4.8 million subscribers, a decline of 6% compared with the previous year. Competition, meanwhile, is intensifying following the government authorization in November 2005 for the entry of two new carriers, the announcement in March 2006 of the acquisition of Vodafone Japan by Softbank, and the advent of MNP (mobile number portability) in Oct. 2006.

Amid changing conditions in the Japanese mobile phone market, KDDI's competitive advantage in expanding its customer base lies in the attractiveness of its all-round offering of infrastructure, handsets, content, and tariffs. The short-term goals are to achieve a 30% share of cumulative subscriptions and a customer base of 30 million subscribers as quickly as possible.

## 6. Mobile Ecosystem Approach



**Fig. 6.1 i-mode Collaboration Concept**

While the above graphic illustrates DoCoMo's i-mode model, all three carriers effectively operate in the same way. Cellco's in Japan control the entire operation of the mobile data value-chain starting with the handset makers; unlike other markets overseas, here the carrier is the customer. The resulting offer is unified from a single source roadmap; this is one of the most important reasons for the success and continued growth in mobile data. All phones have one-key shortcuts to the official menu, the carriers also provide billing transaction settlement for official menu content providers with a generous 90/10 revenue share. When combined with early flat-rate data packages, the range, quality and customer usage has resulted in the highest data revenues anywhere.

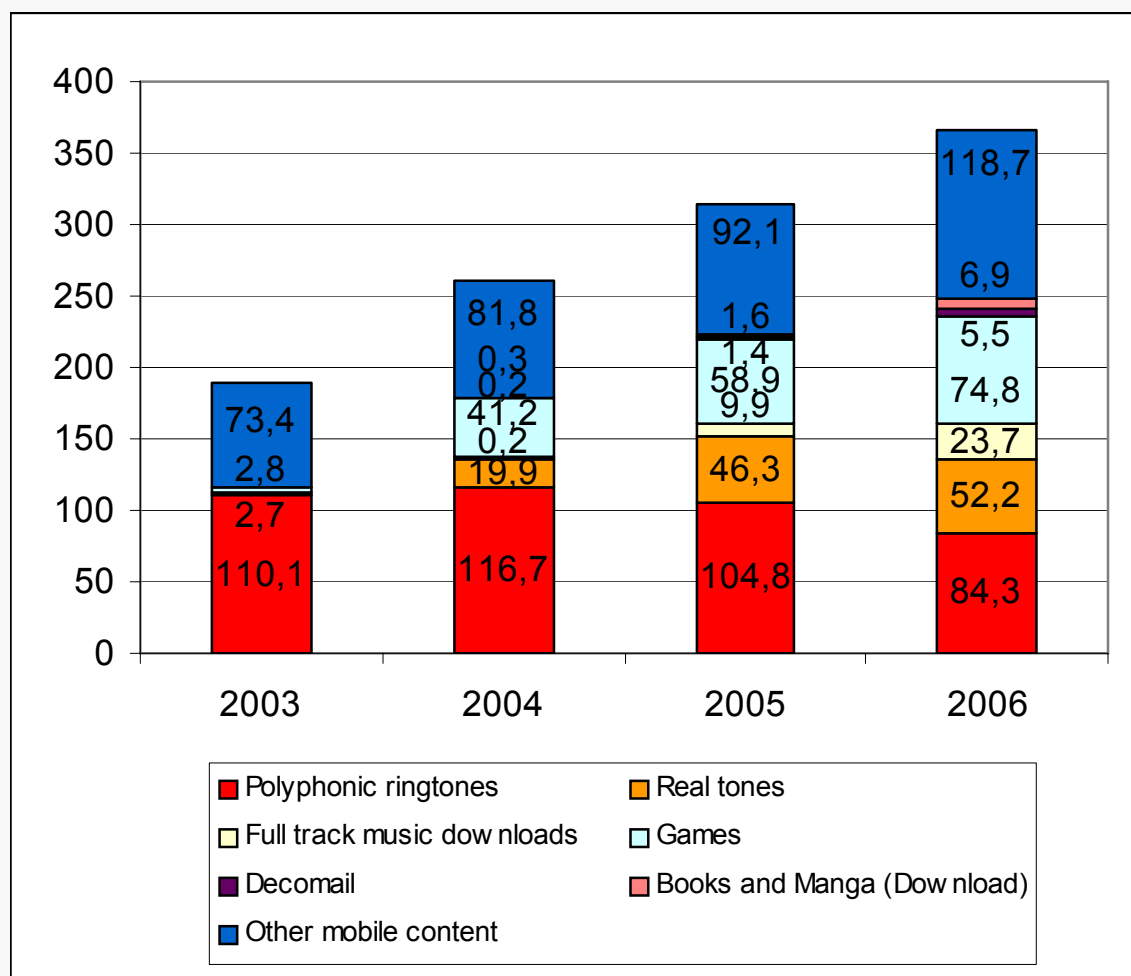
The carrier charges for both sending and receiving of all data as flat-rate plans are now at 30% most customers do not consider limiting usage. According to a recent report, Japan's mobile content marketplace in 2006 was worth some ¥928.5 billion, (approx. \$8 billion) posting an increase of 129% year-on-year. Clearly continued increase of 3G network subscribers combined with desirable contents and services indicate continued growth potential in the Japan market.

The carriers have firm procedures for the operation, and detailed guidelines for new applications, of all official sites. These range from maximum price and per event or monthly subscription, to acceptable content or service; no adult content or peer-to-peer allowed. The verification process to become an official provider can easily take up to one year from start and it has become increasingly difficult to qualify. It should also be noted that the operators generally do not compete by offering their own licensed contents. Also, as all handsets have full HTTP compatibility the non-official site segment has seen significant growth over the last several years.

## 8. Mobile Content and Services Market

While in many other markets worldwide mobile content sales are still much higher than revenues from mobile commerce, in Japan, mobile commerce actually outgrew mobile content in value between 2004 and 2005 (in 2002, mobile commerce only accounted for 44.4% of mobile business revenues, by 2006, this share had risen to 60.5%).

Looking at the category breakdown for different types of mobile content, polyphonic ring tones sales decreased, mobile games and real tones grew moderately, full track downloads grew strongly, while downloadable books and comics as well as Decomail grew very strongly. Other mobile content, such as news, weather, horoscopes and video downloads, grew moderately as well. Mobile digital TV was not included in the survey as its business model in Japan so far is a free transmissions one, aiming to profit from increased advertising and data traffic revenues.



**Fig. 8.2: Mobile Content Revenues by Segment, 2003-2006, in JPY billion**

Source: Mobile Content Forum, July 2007

## 9. Messaging

### 9.2 Decomail

Decomail is mobile email decorated with colored background, pictures, animations, emoticons and other graphic elements – somewhat like a much more elaborate version of MMS. DoCoMo introduced Decomail in 2004 for compatible handsets. In case of handsets not equipped for Decomail, the user is directed to a mobile website where he can view the message (think mobile e-cards).

Decomail is extremely popular with teenagers – and the Japanese mobile market would not be the Japanese mobile market if a massive content business had not been built around the feature. A wide variety of official offer tens of thousands of Decomail elements for users that subscribe to the sites at JPY 210 to 315 per month each.

While Decomail revenues only accounted for 1.5% of all mobile content sales in Japan in 2006, at 393% year-over-year growth it is the fastest-growing content category after mobile books (431%), followed by full track music downloads (239%) (Source: MCF, 2007). For 2006, 63% of users with enabled handsets used the feature (Source: R&D Impress K-tai White Paper 2007).

Some of the most popular Decomail subscription sites are brands like Disney, while companies like Coca Cola employ free Decomail elements for promotional purposes.



Fig. 9.2: Branded Decomail from subscription sites; Coca Cola Decomail elements

Source: NTT DoCoMo; DeNA Co. Ltd.

## 10. Mobile Search

### 10.1 Service Examples: au KDDI and Google

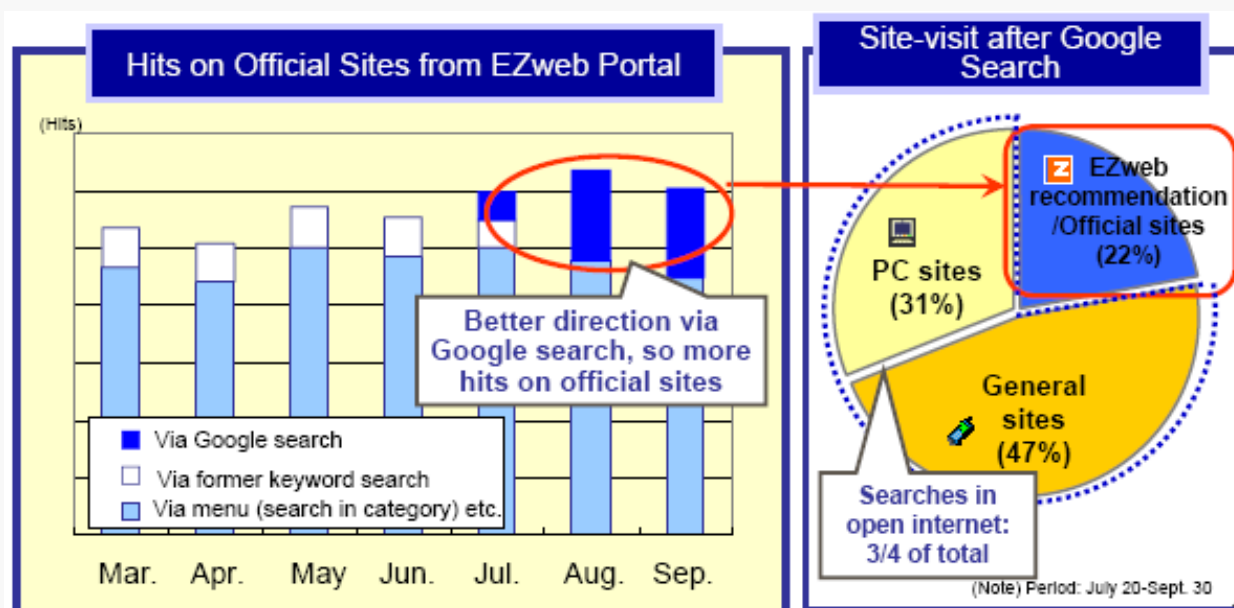
Until 2006, operators only offered search functionality that allowed users to search official sites. This was of course meant to keep users within the "walled garden" as much as possible.

However, there have recently been some significant changes in this area. While still trying to leverage their own portals, operators have realized consumers are increasingly turning towards the open internet on their mobile phones. In an article published May 7, 2007, CNET Japan noted:

*"Japanese teens in the 13- to 19-year-old age segment already prefer searching using mobile search in 70.1% of cases, as opposed to official mobile carrier listings in 47.1%."*

Three major events in 2006 mark what may be a major turning point in carriers' mobile internet strategy and business model:

au KDDI in mid-2006 announced a strategic partnership with Google and placed a Google search window at the top of its EZ Web mobile portal. The number of search queries on EZ Web almost tripled in the month following the integration of Google on the menu. More importantly, most of the resulting traffic led to non-official sites, with only 22% of search queries leading to visits on EZ Web official sites, and 47% and 31% of search queries, respectively, leading to unofficial sites and PC sites (the latter can be viewed with full browsers, which come preinstalled on many au handsets).



**Fig. 10.1: Effect of Google Mobile Search on EZ Web Traffic and Advertising,**  
Source: KDDI

## 12. Mobile Music

### 12.6 Cross-Platform Music Solutions

#### 12.6.1 Service Examples: au KDDI's LISMO

In March 2006 au KDDI once again proved its role as the innovation leader in mobile music and launched LISMO ("Listen Mobile"), an integrated music solution for the PC and the mobile – as a reaction to the market entry of the Japanese iTunes store in late 2005, and as sign of KDDI's efforts in fixed-mobile convergence services. LISMO consists of three main components:

- 1) au Music Port, an iTunes-like music management application and player for the PC (not available for Macintosh)
- 2) au Music Player, the mobile music player software (that comes preinstalled on virtually every handset released by au KDDI since the LISMO launch)
- 3) the LISMO Music Store on the PC; via over-the-air-downloads from EZ Web official sites integrate with the LISMO system



**Fig. 12.5: au KDDI's LISMO system**

On LISMO Music Store, songs cost JPY 315 on average (can be paid for by credit card, mobile phone bill or prepaid cards). There are currently about 40,000 songs available on LISMO, with a catalog heavy on Japanese artists. Recently, au KDDI added video downloads to LISMO as well (which only work on compatible handset models).

## 12. Mobile Music

### 12.6 Cross-Platform Music Solutions

#### 12.6.1 Service Examples: au KDDI's LISMO

Main features of LISMO include the ability to use downloaded music as ring tones, back up mobile full track downloads to the PC (as well as address data and pictures), and transfer tracks from CDs or purchased on the au Music Store to the phone. A service component called "utatomo" is a play list-based mobile SNS, which lets au Music Player users see what others are listening to and communicate with them. It even contains a location-based component which lets users check what the most-listened to songs are in the area that they are currently in.



**Fig. 12.6: Music Community utatomo on au KDDI's LISMO**

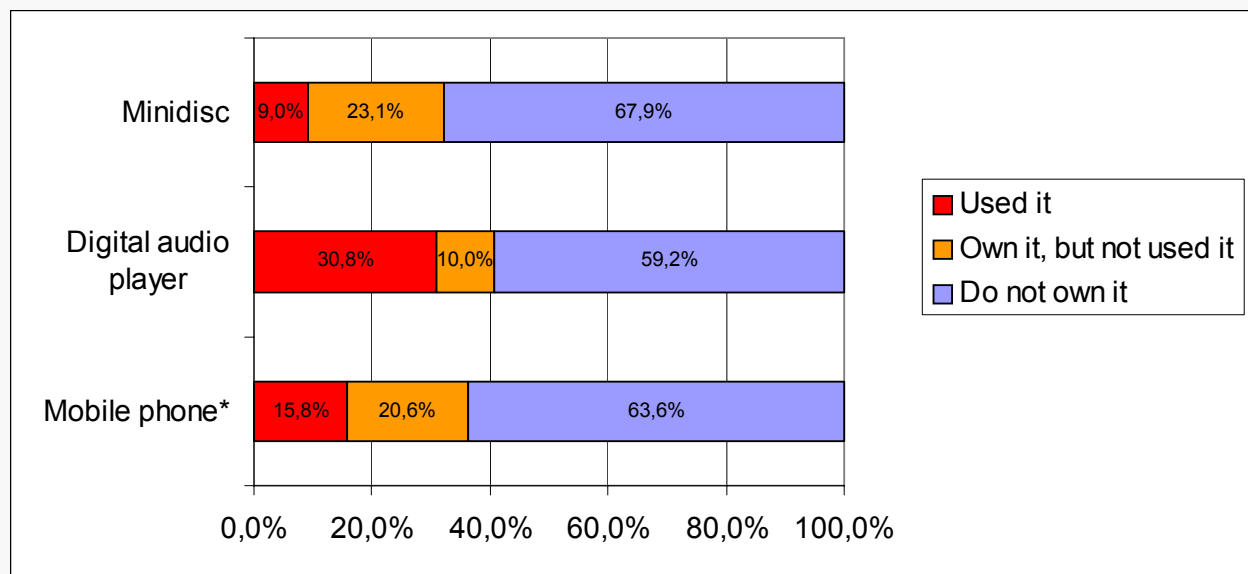
With LISMO, music can be transferred from the PC to the mobile phone by USB cable. The music needs to be downloaded from the LISMO music store or ripped from CDs – importing existing music files on the PC into au Music Port is only possible if files are in WMA, WAV or AAC format (MP3, ATRAC etc. are not compatible) and non-DRM. Also, music downloaded over the air directly to the mobile phone can be backed up to the handset. There are two notable limitations to LISMO: music files, whether downloaded (from PC or mobile) or ripped from CD, have a bit rate of 48 Kbps in HE-AAC format, which is quite low-fidelity compared to what other solutions such as iTunes/iTunes Music Store offer. Also, the LISMO system is a fully closed system and not interoperable with other types of media player software or online music stores.

au KDDI has not disclosed user and/or download numbers for LISMO – usually, au is quick to announce success stories to the press, so whenever they refrain from doing so, it could be interpreted as a sign of results not being as splendid as the carrier had hoped for.

## 12. Mobile Music

### 12.9 Mobile Phones as Music Players

The data from the K-tai White Paper investigation is more or less in line with results from a Rakuten Research/Mitsubishi Research Institute from July 2007, which polled users on which portable music device (mobile phone with music player function, digital music players such as iPods and MiniDisc players) they had used to listen to music while on the go in the three months preceeding the investigation. While digital music players dominate with over 30%, almost 16% of respondents said they had used their mobile phone to listen to music, a figure more than 50% up from the previous year (9.2%).



**Fig. 12.13: Preferred Device for Portable Audio Consumption**

**Base: all respondents, N=2,400**

**Source: Rakuten Research/Mitsubishi Research Institute, July 2007**

**\* mobile phones with music player software**

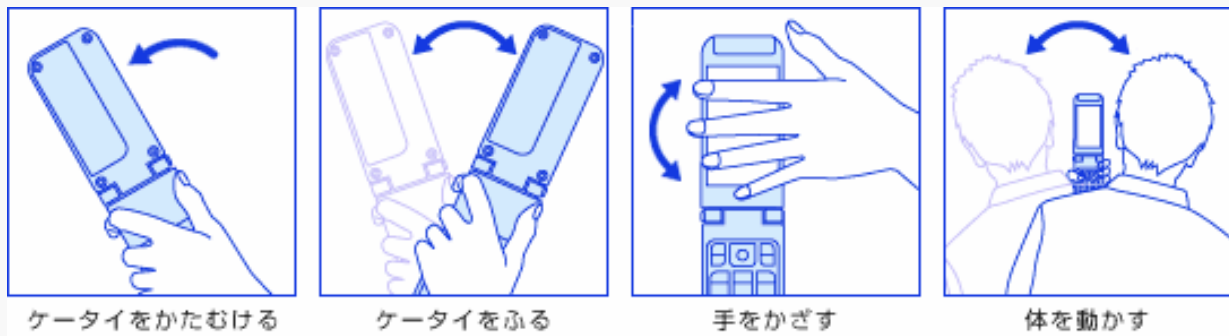
It needs to be noted here that the answers for mobile phones can include answers regarding tracks not downloaded to the device over the air, but also music files transferred to the phone by USB cable or memory card.

## 13. Mobile Games

### 13.3 Casual vs. Heavy Games

#### 13.3.1 Service Examples: DoCoMo 904i Series Motion-controlled Games

In April 2007, DoCoMo announced that several models of its new 904i handset series would be equipped with motion sensors, allowing users to interact with games by tilting and shaking the handset, much as controller of the ultra-popular Nintendo Wii casual gaming console works.



**Fig. 13.7: Motion-controlled Handset Interaction**

**Source: NTT DoCoMo**

While this garnered a lot of attention in the press, Vodafone Japan had actually launched a similar model about two years earlier – crucially, however, it had failed to provide a compelling lineup of compatible games, while DoCoMo came out storming with 64 compatible titles at launch, including ports of very well-known and highly popular titles such as the arcade classic "Arkanoid" by Taito and Bandai Namco's "Katamari Damacy."



**Fig. 13.8: Examples of Motion-controlled Games**

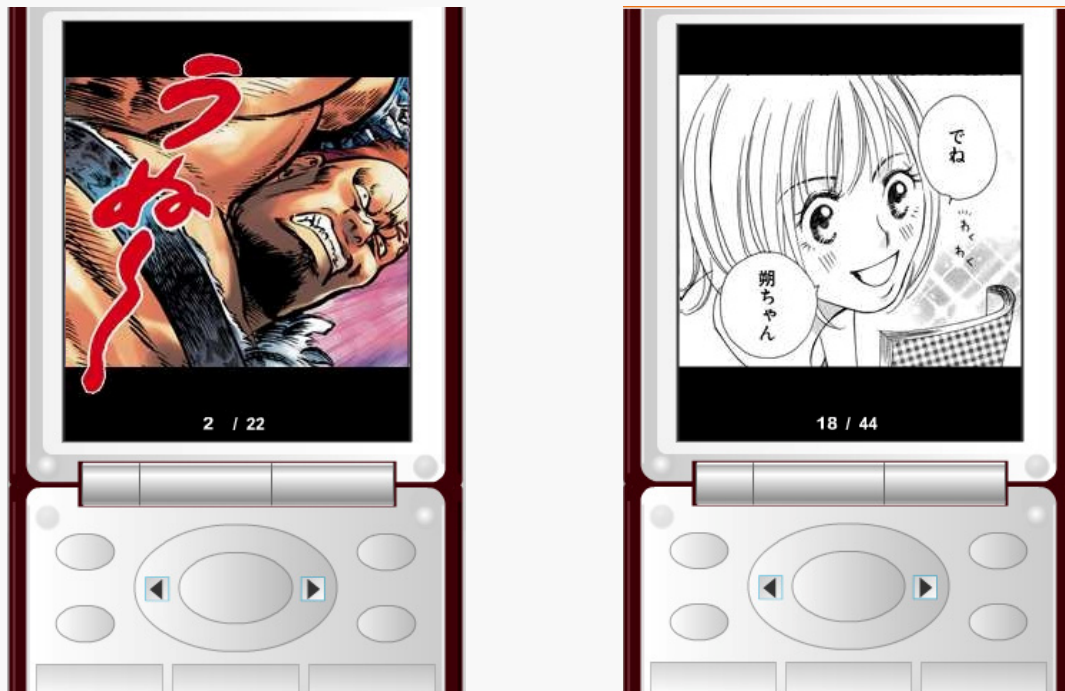
**Source: K-tai Watch Impress**

Just as interesting as the possibilities for interaction with games are that the motion sensor can be used to scroll across documents in document viewer mode and large web pages in full browser mode by tilting the handset, shaking the handset to call up the emoticon menu when composing email or opening incoming email while listening to music, or switching from vertical to horizontal orientation in video mode á la iPhone.

## 14. Mobile Manga and Books

### 14.1. Mobile Manga

A relatively new category of mobile content that is still in its nascent stages as far as revenues are concerned, but showing the strongest growth rates among all types of mobile content, are digital versions of books and manga (Japanese comic books) that can be read on the mobile phone. According to the Mobile Content Forum, revenues in 2006 totaled JPY 6.9 billion, showing 431% year-over-year growth. Half of these sales are generated by electronic comic books downloaded to mobile phones, according to Impress R&D.



**Fig. 14.1: Samples of popular Mobile Manga Titles**

**Source: NTT Solmare**

The number of mobile comic sites has exploded since 2004 to more than 300 today, with more than 10,000 titles available as mobile version. SoftBank Mobile, which has been pushing E-Comics strongly recently, the carrier offers more than 3,000 titles through partner sites. When NTT Solmare, one of the largest providers of comic books on mobile, launched its service in August 2004, it reached 10 million paid download across the three carriers in under half a year.

## 14. Mobile Manga and Books

### 14.1. Mobile Manga

Almost all mobile comic sites have adopted a tiered pricing model: consumers buy monthly subscriptions for JPY 300, 500, 1,000 or 2,000 that they can then redeem for episodes – an color episode will usually cost the equivalent of JPY 30 in points, about 25% this amount for black and white. The majority of mobile manga consumers are female - according to NTT Solmare, 60% of readers are women.

Factors that have been driving the adoption of mobile Manga are the high 3G penetration rate, the proliferation of fixed-line plans and high-quality, large-resolution handset displays.

Adaptations of comic books for mobile phones are not simple galleries of pictures that users flip through on their handsets, but offer a much more sophisticated user experience than their print counterparts: since almost all handsets in Japan support Flash, which is a key enabling technology for mobile comics: Animations as well as automatic scrolling/panning across screens are possible, as are additional effects such as the handset vibrating in accordance with events in the storyline.

In 2005, au KDDI launched "EZ Book Land!," a portal for electronic versions of books and Manga tailor-made to fit the small screen. Smartly, right from the beginning, it linked the download portal to its au Books mobile commerce site, through which 450,000 physical books can be ordered by mobile (backed by Maruzen Co., one of the largest bookstore chains).

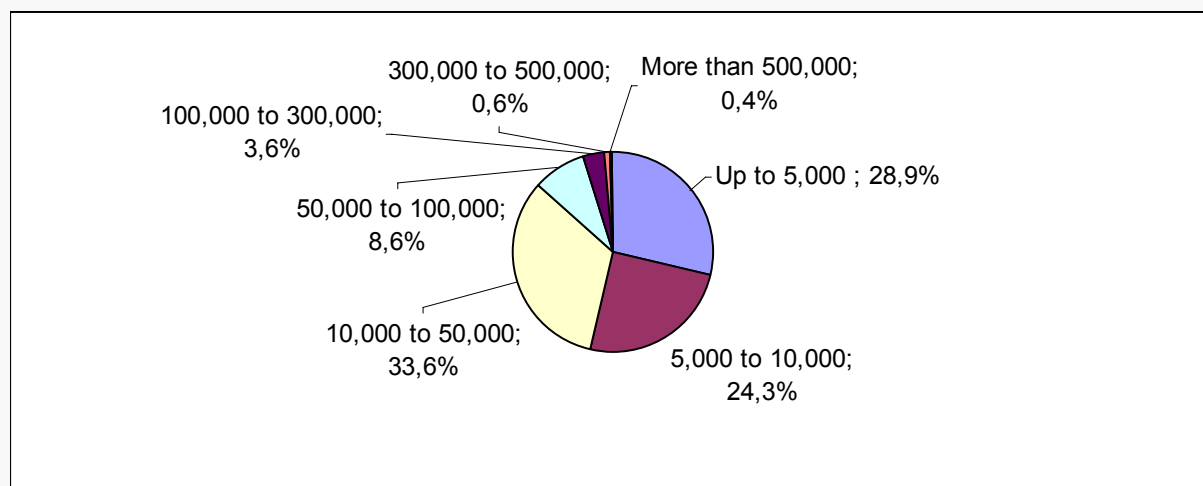
## 15. Mobile Commerce and Auctions

### 15.1 Mobile Shopping

So if Japanese consumers have adopted the mobile phone as a shopping device, what do they buy? How much do they spend? And how to they pay the bill?

With regard to the first question, the answer lies in looking at who shops via the mobile the most – women. Accordingly the strongest mobile shopping goods categories by far are fashion/clothing (50.4% of mobile shoppers), books (37.7%), CDs/DVDs (36.6%) and cosmetics/hair care.

The average yearly amount of purchases via the mobile among mobile shoppers in 2006 was around JPY 30,000, with 33.6% of mobile shoppers spending between JPY 10,000 and JPY 50,000 per year:



**Fig. 15.3: Yearly Amount spent Mobile Shopping, in JPY**

**Base: Mobile shoppers, N=795**

**Source: K-tai White Paper 2007, R&D Impress, October 2006**

Billing-wise, the majority of mobile shoppers choose to pay the shipping delivery service person on delivery – in most cases, this would be conducted in cash, but bigger delivery services take credit cards as well. 65% of mobile shoppers have chosen this form of payment. 49.5% of mobile shoppers have paid by credit card online, while 36.1% have paid at a convenience store (many bills in Japan, like the phone bill, utility bills etc. can be paid at the ubiquitous convenience stores). While this is possible on some cases, especially on au's operator-branded shopping services, only 6.3% of users have paid for mobile shopping purchases through their mobile phone bill.

## 15. Mobile Commerce and Auctions

### 15.1 Mobile Shopping

#### 15.1.1 Service Examples: au KDDI Mobile Shopping and Auctions Sites

au KDDI is the carrier that has been making the strongest efforts in establishing its own suite of branded mobile commerce services. Its strategy is to partner with experienced players in the relevant segments under an OEM setup.

In late 2005 au launched a fully branded shopping site called EZ Shopping Mall, which runs on technology provided by DeNA Co. Ltd., one of Japan's biggest technology providers in online and mobile commerce, which also operates a number of sites under its own brand. au Shopping Mall is actually a mall of shops by other online retailers and features exclusive limited-edition products. Monthly "rent" for online retailers starts from JPY 20,000. au also operates mobile commerce sites for CDs/records (EZ au Records), books (EZ au Books), ticketing (EZ au Tickets) and games (EZ au Games).

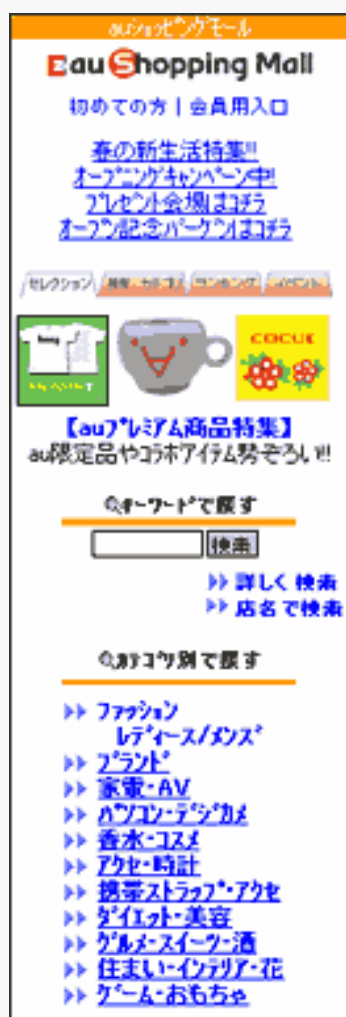


Fig. 15.4: EZ au Shopping Mall on Mobile

Fig. 15.5: au portfolio of Commerce Platforms

## 15. Mobile Commerce and Auctions

### 15.1 Mobile Shopping

#### 15.1.1 Service Examples: au KDDI Mobile Shopping and Auctions Sites

In September 2006, au launched a mobile commerce site for travel (for which it partnered with Japan Travel Bureau, the dominant player in the travel agency business in Japan). On EZ au Travel, accommodation options nearby can be retrieved via GPS and people's travels are by seamless synchronization with "EZ Navi Walk" and "EZ Passenger Seat Navi" (cf. chapter on Location-based services).



Fig. 15.6: EZ au Travel on Mobile; EZ au Auction Mobile and PC Versions

Furthermore, au has a mobile auction service called au EZ auction that runs on a mobile ASP solution also provided by DeNA Co., Ltd (the same technology powers mobaoku, DeNA's own, highly successful mobile auctions site). EZ Auction has more than 500,000 users.

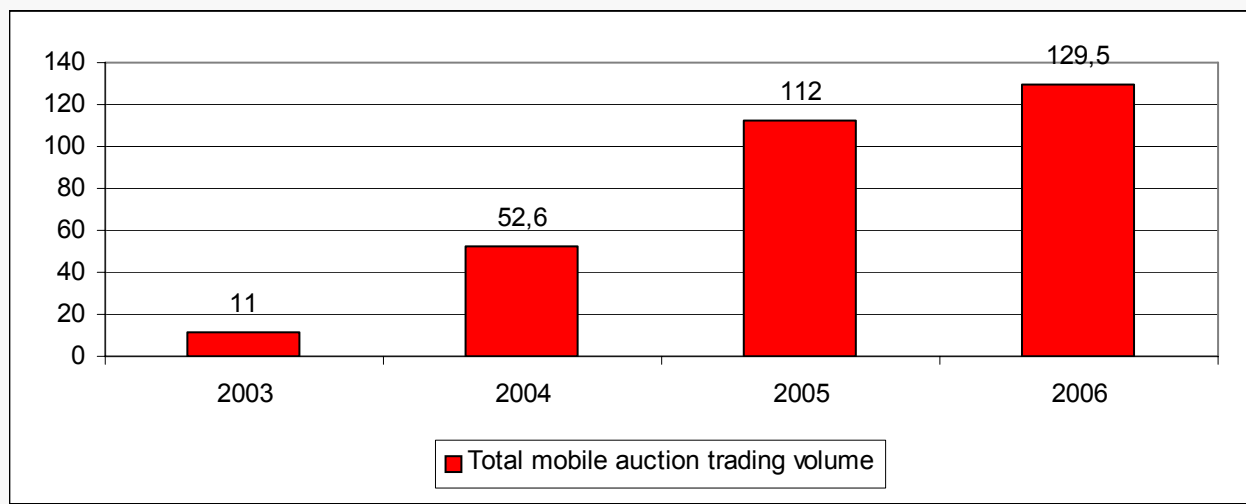
Following a strategy to create a compelling portfolio of fixed-mobile convergent services, all of au's mobile commerce sites will be available via the PC web as well from September through au's new cross-platform portal site auOne (some, like EZ Auction, have already been available via the PC web for some time). For all au shopping/commerce services, payments can be settled through the phone bill (this feature has 70% usage among au mobile commerce users).

## 15. Mobile Commerce and Auctions

### 15.2 Mobile Auctions

The online and mobile auctions market started booming in Japan relatively late, seeing its strongest growth between 2004 and 2005. Since then, growth has decelerated, but the segment is still developing healthily. 41-8% of mobile internet users have participated in mobile auctions. The age/gender group segments it is most popular with are female users in their teens and twenties. The most popular categories of goods on the generally reflect the ones described above for mobile shopping.

As the following chart shows, the total market volume of goods traded via mobile auctions was JPY 129.5 billion – which means that about half of all goods bought online via mobile phones (2006: JPY 258.3 billion, see above) are traded via auctions.



**Fig. 15.8: Total Mobile Auction Trading Volume, 2003-2006, in JPY billion**

**Source: Mobile Content Forum, July 2007**

## 16. Mobile Digital Cash

### 16.4 Service Examples: DoCoMo's iD/DCMX (Postpaid/Credit)

Digital cash via IC cards and FeliCa-enabled mobile phones in Japan so far have been mainly prepaid systems. However, the market is fast developing postpaid/credit platforms as well.

In 2005 DoCoMo surprised the industry when it announced it would be acquiring a 33.4% stake in Sumitomo Mitsui Cards, Japan's second-largest credit card company with 12.8 million cardholders, for the not-so-small sum of JPY 98 billion. The carrier had ambitious plans in the mobile payments field: to become a mobile credit card company.

In April 2006, NTT DoCoMo then took the next logical next step in expanding the capabilities of FeliCa-enabled phones and launched its own platform for credit card transactions, called "iD."



**Fig. 16.5: DoCoMo iD Reader at a store**

What is crucial to understand is that iD is not a credit card brand – it is a platform that existing credit card companies and banks can dock onto to let their users pay contactlessly with FeliCa-enabled credit cards (and, in the not-too-distant future, via mobile applications replacing the plastic). DoCoMo has already struck agreements with a total of 55 issuing banks such as UC Card Co./Mizuho Bank (in which case Mizuho transferred its stake in UC Card, approximately 18% of UC Card's outstanding shares, to DoCoMo for about 1 billion yen in the middle of March 2006), giving the banks' customers the option of tying their existing credit cards to the chip on the handset for making contactless payments via iD readers.

## 16. Mobile Digital Cash

### 16.4 Service Examples: DoCoMo's iD/DCMX (Postpaid/Credit)

However, DoCoMo had no intentions of stopping there. At the same time as launching iD, the carrier started to market DCMX Mini, the "light" version of its own credit card services, which it would fully launch one month later.

With DCMX Mini, all DoCoMo users older than 12 that have FeliCa-enabled phones are able to use the system by downloading a Java applet into their phone (which of course comes pre-installed on all current FeliCa handsets) and verifying their identity with their network personal identification number. Once they have done this, all they need to do is swipe their phone over the iD reader at the point of sale, with no further authentication necessary. DoCoMo provides a monthly credit line of JPY 10,000 per month to all customers through this service, which is deducted through the monthly phone bill.

In May 2006, the full DCMX service launched, requiring a more complex application and providing users with a conventional credit card in addition to the mobile phone payment system upon request. The service offers DCMX Visa and MasterCard credit cards with a credit line of JPY 200,000 per month. A gold card with an increased credit line and additional benefits has been introduced as well.



**Fig. 16.6: DoCoMo handset with DCMX application and credit card**  
**Source: NTT DoCoMo**

## 17. 1seg Digital Mobile TV

### 17.1 1seg Overview

The Japanese standard for mobile terrestrial digital audio/video and data broadcasts is called "1seg." As opposed to other markets that use either DMB or DVB, in Japan, the digital broadcast standard is ISDB (Integrated Services Digital Broadcasting). ISDB-T, the terrestrial variant transmitting on 6 MHz bandwidth, has 13 segments – 12 of which are used by one HDTV channel (or three SDTV channels), and one remaining channel, which is used for broadcasting to mobile devices. Thus, mobile digital TV was dubbed "1seg." After testing in 2005, 1seg was launched officially on April 1, 2006.

The screen for 1seg broadcasts is divided into two sections: the upper half for TV broadcasting, with the lower half providing data feeds related to the program, and – this is the crucial part – a back channel to the internet, allowing them to directly react to and interact with the programming. and other viewers.



**Fig. 17.1: Examples of 1seg Broadcasts**

Mobile carriers and broadcasters alike are having high hopes for revenues from new services enabled by the technology, specifically from a form of impulse purchases that will make yesterday's TV shopping blush. For example, consumers will be able to directly order the clothes actors are wearing on TV shows and drama, while they are still watching them. Like the song that's playing during the commercial or the film soundtrack? Download it immediately as a ring tone or full-track, or order the CD. Need the ingredients for the dish the host is preparing on the program? No problem, click here to have the supermarket deliver them, and here are the steps for preparing it as a video walk-through download, too.

## 17. 1seg Digital Mobile TV

### 17.3 Tie-ups between Carriers and Broadcasters

Back in December 2005, DoCoMo announced it would be investing more than JPY 20 billion in Fuji TV, giving it a 2.6% stake in the company, stating itself and Fuji TV would be sharing resources and expertise to create a new market and develop services in the field of mobile communications and broadcasting. Almost exactly a year after the initial capital tie-up, DoCoMo and Fuji TV announced they had agreed to set up a broadcasting joint venture with a capitalization of JPY 30 million, owned equally by NTT DoCoMo, FujiTV, Nippon Broadcasting System Inc., Sky Perfect Communications Inc. and trading house Itochu Corporation (which has strong interests in trading/retail as well as being a major components provider for hardware makers in the mobile space).



Fig. 17.3 Transmission of Electronic Coupons via 1seg

Source: NTT DoCoMo

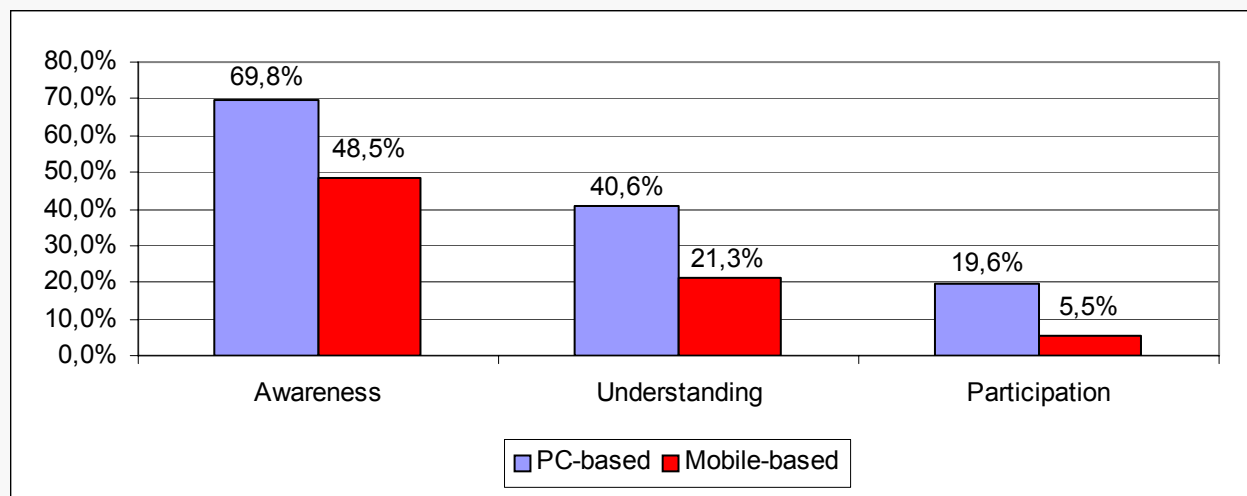
In February 2006, DoCoMo and Nippon Television Network Corp. teamed up to develop 1seg-related services. Investing JPY 5 billion each, the two companies set up a limited liability partnership, which will focus on the production of TV programs for mobile phones and related services. As one of the first visible results of this partnership, in October 2006 the two companies announced they had developed a new system to deliver electronic coupons over 1seg broadcasts. The coupons are delivered as e-coupons and stored on the FeliCa chip – meaning consumers can redeem them contactlessly at retailers by simply holding their handset over an IC reader/writer touchpoint.

## 18. Mobile Social Media

### 18.2 Mobile Social Networking

Over the past two years, users' attention has been shifting from standalone blogs to SNS that have a variety of other services built around blogging (or "diaries," as it is often called in that context). More recently, a number of SNS with both mobile and PC version have also introduced free entertainment content such as Flash games, avatars and fortune-telling to the mobile version of their service, which often results in the mobile version being structured quite differently from the PC web one.

Overall awareness and usage of SNS on mobile is still relatively low when compared to other more established content/service categories such as mobile music or games. According to survey results released by Rakuten Research/Mitsubishi Research Institute in February 2007, the awareness rate for mobile SNS among mobile users is 48.5%.



**Fig. 18.3: Awareness, Understanding and Usage of SNS**

**Base: all mobile users, N=2,4000**

**Source: Rakuten Research/Mitsubishi Research Institute, February 2007**

The "understanding rate" (people who not only know about the service, but also have a good understand of how it works) is 21.3%, and the usage rate is 5.5%. For comparison, awareness for PC-based SNS is 69.8%, understanding is 40.6% and participation is 19.5%, almost four times higher than for mobile SNS. Among mobile users who do not yet use mobile SNS, 11.8% expressed an interest in doing so, indicating a market potential more than double the number of mobile SNS users active today.

Among active users, mobile SNS have a very high repeat usage: On average, mobile SNS users logged in SNS 30.8 times a month.

## 18. Mobile Social Media

### 18.2 Mobile Social Networking

#### 18.2.2 Service Examples: mobagetown

mobagetown, a mobile-only site combining free games, social networking functionalities and avatars/virtual items that can be purchased with a virtual currency called "MobaGold," operated by parent company DeNA Co. Ltd., is quite possibly the most traffic-intensive and fastest-growing mobile-only service in the world. mobagetown is available on all three operators as an unofficial site – it is not listed on the carrier deck, but has proven a stellar success..

The site, which is open to anyone without an invitation, has seen explosive user growth since its launch in February 2006, and has gathered almost 6.5 million members in a little over 18 months. It is currently generating about 10 billion page views per month. mobagetown is especially popular with teenagers, but more recently, the 20ies and 30ies user segments are the demographic growth segments.



**Fig. 18.7: Multi-Player Online Game; SNS Profile Page with Avatar on mobagetown**

The mobagetown model is based on attracting users with highly attractive, top-quality free casual games (about 60 of which are Flash-based online games, and 20 Java download applications). The majority of the games are single-player, but there are some multi-player games as well. In order to play the games, users have to create an account, which gives them access to standard SNS features such as blogs, comments and groups, as well as providing them with a profile page with an avatar representing them inside mobagetown.

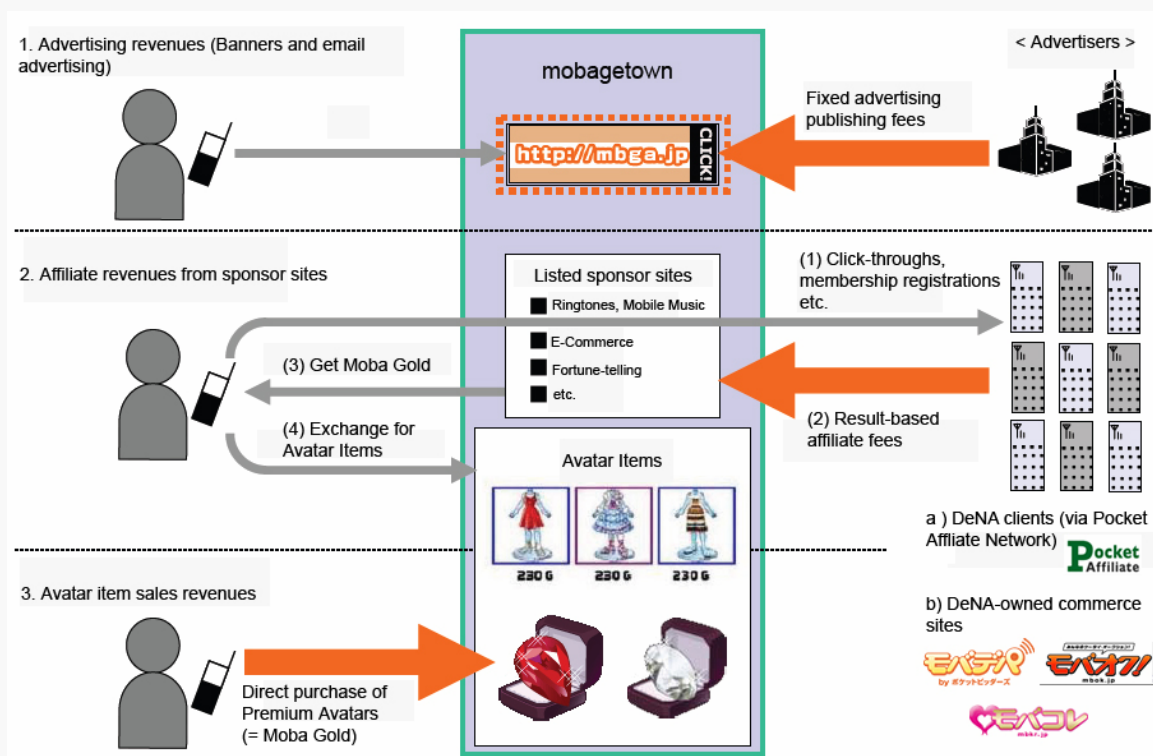
# 18. Mobile Social Media

## 18.2 Mobile Social Networking

### 18.2.2 Service Examples: mobagetown

In order to equip the avatar with a choice from more than 10,000 virtual items like clothing, accessories, pets and even furniture for a virtual room he resides in, members need to acquire and spend a virtual currency called MobaGold.

The virtual currency/avatar item setup is a key part of the service since mobagetown's revenue model is based on it: everything the users have to do to gather virtual currency to outfit their avatars will directly or indirectly generate revenues for parent company DeNA. Users can earn MobaGold for recruiting new members, clicking on text and banner advertising and registering with or purchasing on sponsor sites – which generates revenues for DeNA – as well as for shopping on sister sites mobakore, mobadepa and mobaoku, all of which are mobile commerce/auction sites owned and operated by DeNA directly. MobaGold can also be bought directly with real money.



**Fig. 18.8: mobagetown Business Model**

**Source: DeNA Co., Ltd.**

Rather than being just a mobile SNS with free games and avatars, mobagetown is a traffic machine designed to drive purchases on DeNA's mobile shopping and mobile auctions sites, as well as increase revenues on DeNA-owned Pocket Affiliate, one of Japan's biggest mobile affiliate networks (think "Google Pay-per-action for mobile.")

# 19. Personalized Start Pages

## 19.1 Service Examples: au My Page

As part of its efforts in creating fixed-mobile convergence (FMC) services, in October 2006 au KDDI launched a free personalized start page service called au My Page, which reached 1 million users with three months of launch (newer data not available), demonstrating customer demand for cross-platform personalized home pages. When accessing MyPage from the mobile (via the EZ Web menu) and the PC, respectively, the interface is different, but contents remain consistent.



**Fig. 19.1: au My Page on Mobile and PC**

**Source: au KDDI**

While in principle the concept is similar to iGoogle or Netvibes, au My Page integrates deeply with a wide variety of au services. au My Page has an online storage component, which lets customers use a BREW application to back up up to 100 MB of email, address book data, photos and files stored on the handset to a server.

On their personalized start page, customers can read news feeds from sites that they can specify themselves. These feeds may not only be news content, but include updates from shopping/auction sites, music and video services as well.

## 19. Personalized Start Pages

### 19.1 Service Examples: au My Page

As part of a "Tools" feature, au MyPage includes a centralized calendar and scheduling tool, area navigation with maps, photo album, and easy access to EZ GREE (see chapter on mobile SNS) as well as DUOBLOG, au's cross-platform blogging service.

The "My Site" feature lists links to all the paid sites the user is subscribing to, as well as the user's mobile bookmarks. Furthermore, au provides users with site recommendations based on a collaborative filtering engine (similar to Amazon) to suggest sites to My Page users.

DoCoMo and SoftBank only have rudimentary comparable services: Since 2005, NTT DoCoMo has been offering a so-called "Data Security Service," which only allows users to back up the contents of their phone's data (including photos, address books, etc.) to a central server. This service is available for 100 yen per month and covers up to 4 MB of data storage.

On SoftBank Mobile, the Yahoo! Mocoa client (see chapter on messaging for details) integrates some functionalities such as email, instant messaging and address book backup.

The topic of au's effort to create compelling services across the mobile and the PC will be further explore in the chapter on auOne as an example of fixed-mobile convergence services further below.

## 20. Location-based Services

### 20.4 Service Examples - Recruitment: Otetsudai Networks

In spring 2006, Location Value Inc. started a new location-based service called "Otetsudai Networks" ('otetsudai' means 'help' in Japanese). The concept – which a Location Value spokesperson recently called "almost an auction system for temporary labor" – is to match employers who are urgently looking for temporary employees with workers who are seeking a temporary job. The service is free for workers, who can use their mobile's GPS function to locate immediately available job openings in their vicinity. The system even matches users and employers for very short tasks (as short as 2 hours) such as babysitting, lending a hand with moving or walking somebody's dog.



**PC View of Otetsudai Networks Application:**  
**Central Tokyo Map with currently available Workers marked in blue**  
**Source: Location Value**

Registered workers who have free time press a "Free Now" button when they are available. When employers seek workers with registered job information, the system automatically displays workers in the local area that are currently available, along with information on their qualifications. Major corporations that often have a need for short-notice and short-duration help from temporary staff, such as Lawson, Restaurant Express and Success Academy have already registered with the service.

So far, the system has gathered about 10,000 registered workers. From a business model point of view, apart from charging employers membership fees, Location Value is accumulating a highly valuable database of people's locational movement patterns, which it will be able to market as statistical data for a wide variety of purposes.

## 21. QR Codes

### 21.1 2D QR Codes Usage, Technology and Applications

QR codes that can be scanned by means of the mobile phone's camera in combination with pre-installed QR reader software on the handset are in widespread use in Japan, and are leveraged for anything from providing easy access to mobile content, linking fashion items advertised in magazines to mobile commerce sites, connecting PC websites to their mobile counterparts, as well as in large-scale campaigns involving the whole spectrum of advertising media.



**Fig. 21.1: One of the most famous advertising campaigns leveraging QR codes - Northwest Airlines "Giant QR Codes" Campaign, 2005**

Penetration of QR code reader-enabled handsets in Japan is close to 90%, with almost 85% of users with enabled handsets having used the feature, a good 20% of them using it weekly and 44% using it at least once a month (Source: impress R&D K-tai White Paper 2007).

With regard to QR codes, Japan is a one-standard market. Originally developed by Denso-Wave for logistics and tracking purposes in manufacturing, these black and white 2D codes can be decoded by the handset even if only 40% of the code is actually captured by the handset.

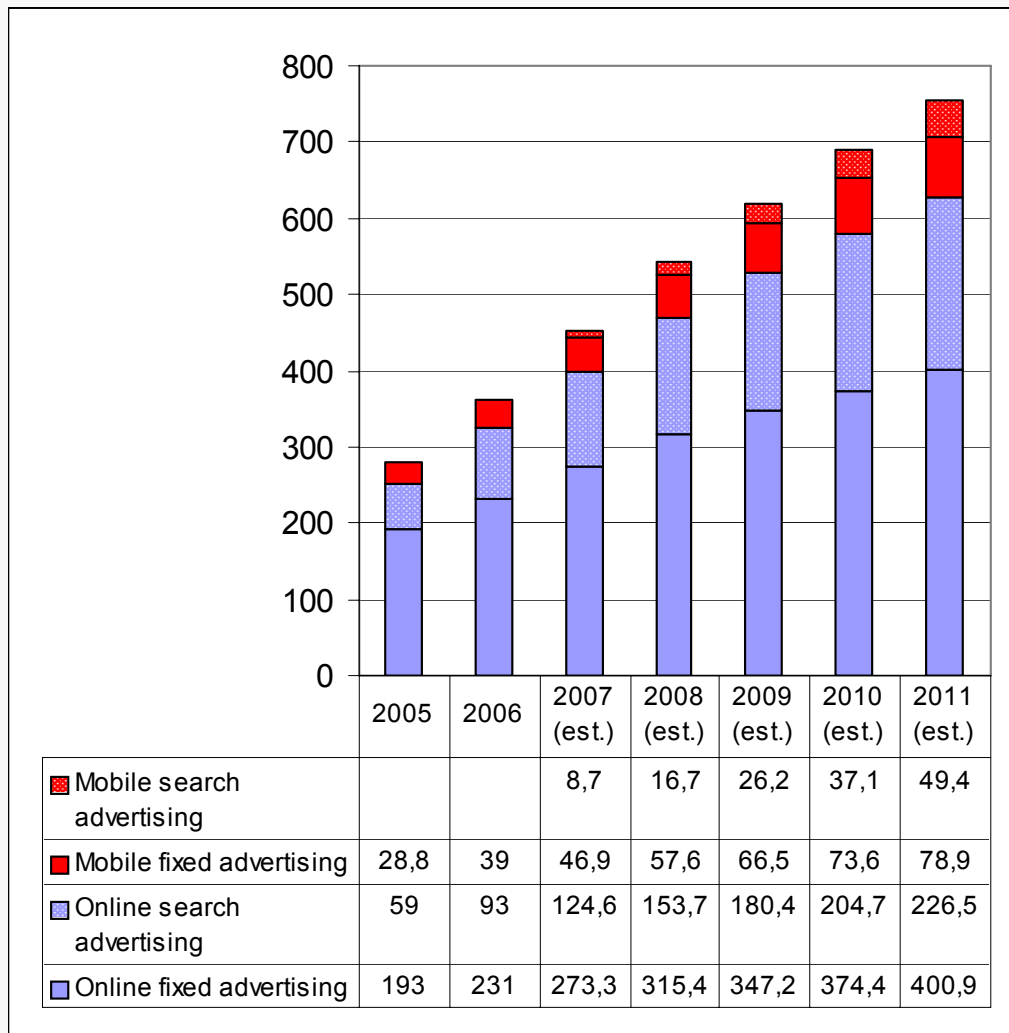
The system is quite error-tolerant, working even if the code is scanned at an angle, or if the code is slightly blurred. Using as well as generating QR codes is free, which has led to very adoption. Technology licensing costs are burdened by the carriers and handset makers who are incorporating reader software into their devices.

## 22. Mobile Advertising

### 22.5 The Shift towards Search-based Mobile Advertising

With major developments in mobile search having started in 2006 (see chapter on mobile search for details), mobile search marketing is poised for strong growth in the next few years, projected to grow much faster than traditional mobile banner/text advertising, as well as online advertising..

While mobile search advertising in 2007 will only account for 14.3% of all mobile advertising expenditures, by 2011 this ratio will increase to 42.6%.



**Fig. 22.7: Mobile and PC Online Advertising Expenditures (Traditional vs. Search-based), 2005-2011**

Source: Dentsu Inc., April 2007

## 23. PC Site Viewers

### 23.1 Overview

With the traditionally operator portal-centric model in Japan opening up and mobile search playing an increasingly important role, not only is usage of so-called unofficial sites (sites that are Compact HTML-based, but not listed on the operator portal) growing strongly - but also, "PC Site Viewer" applications that let users access standard HTML web pages from the mobile have been becoming more popular recently. A fact that is somewhat confusing is that this functionality has different names on each carrier ("PC Site Viewer" on au, "Full Browser" on DoCoMo and "PC Site Browser" on SoftBank).

au KDDI introduced the concept in December 2004, starting to equip handsets with a preinstalled application branded "PC Site Viewer" that re-renders PC websites for easy viewing via mobiles (known as "microbrowsers" in other markets, with the most well-known example being Opera Mini). Since then, the carrier has, by its own accounts sold more than 10 million PC site viewer-enabled handsets, which amounts to more than a third of its customer base. The feature comes preinstalled on all 21 CDMA 1X WIN handsets currently available from au and is only not available on the 10 handsets in the CDMA 1X line.



**Fig. 23.1: au KDDI PC Website viewed on PC and through Mobile Phone's PC Site Viewer**

**Source: au KDDI**

The other two carriers started offering PC Site Browsers much later than au, but are now fast turned it into a standard feature - on DoCoMo, 13 of the 15 models in the FOMA 9 series have PC site viewers (called "Full Browsers" on DoCoMo), and 2 of the 8 lower-end FOMA 7 series do as well. Half of SoftBank's 28 3G models come with a PC Site Browser pre-installed.

## 25. Fixed-mobile Convergence

### 25.1 Service Examples: KDDI's auOne Strategy

Content-matched ads with KDDI receiving a cut of revenues from Google will surely be part of the deal. Not available yet, but coming soon are mobile emoticon support for auOne Mail (emoticons are a must-have feature in Japanese mobile email communications) and automatic backup of EZ web email messages sent from the phone's email client to auOne Mail, creating an always-synchronized email center, no matter whether the customer uses the phone's email client, the mobile mail web interface or the PC one.



Fig. 25.1: auOne Mail on Mobile and PC

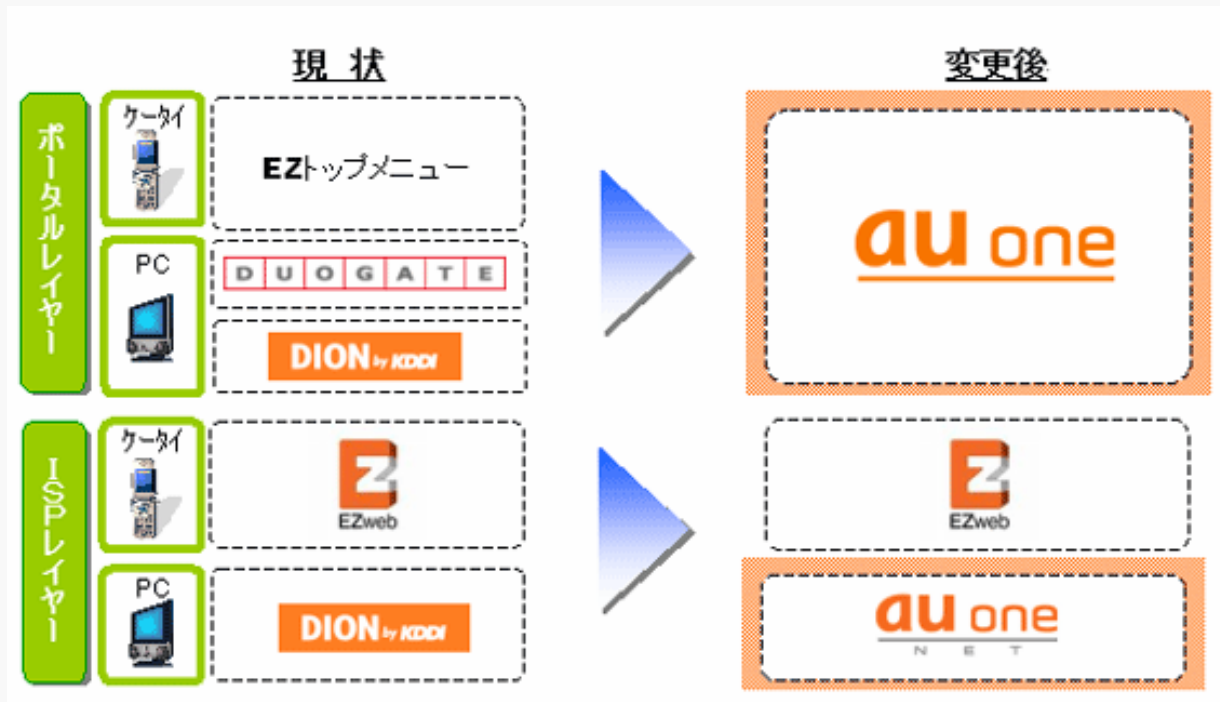
Source: KDDI

Over the past years, au has slowly, but surely built a portfolio of branded services for all the really crucial areas of mobile services – weather news, au's own music download service (LISMO), a navigation service (EZ Navi Walk, a branded version of Navitime), its own SNS with free games and avatars (EZ GREE, constructed after taking a majority stake in Japan's #2 in the SNS market, GREE), a personalized homepage feature à la iGoogle (au MyPage), mobile commerce sites (au Auction and au Shopping), games (EZ Games) and more. Basically, over the past two years, au has been steadily working to put together a line-up of operator-branded services that fulfil the needs of even the more savvy users. KDDI has also developed PC web versions of all these services and started providing them through the DUOGATE PC website.

## 25. Fixed-mobile Convergence

### 25.1 Service Examples: KDDI's auOne Strategy

Which provides the background for the second announcement: From late September, the DUOGATE PC portal site, as well as the DION portal site for fixed-line broadband customers of the DION ISP services will be replaced by a PC portal site called auOne. At the same time, the top page of the EZ Web portal will be replaced by the mobile version of auOne EZ Web will continue to be called EZ Web, but the DION ISP service will henceforth be known as auOne NET.



**Fig. 25.2: Rebranding KDDI's PC and mobile ISP services as part of auOne**  
Source: KDDI

The auOne portal will feature access to all core services from both the PC and the mobile, via an interface structured the same on both platforms – all crucial services will be accessible with one click of the button on the phone's keypad or the PC's keyboard – press 1 for Weather, 2: Fortune-telling., 3: Navigation/Transportation, 4: Music, 5: Television, 6: Games, 7: Books, 8: Shopping, 9: Auctions.

## 25. Fixed-mobile Convergence

### 25.1 Service Examples: KDDI's auOne Strategy

...with Google Search at the top of the page, access to auOne Mail (see above), Wikipedia keyword lookup and au My Page (see chapter on personalized start pages as the center piece (listing things such as location-relevant news items, updates to friend's blogs, new email notifications, recommended links etc.).

Note that all services listed above are directly controlled by au, rather than being services from official EZ Web content providers (even though some are powered by partner's engines, such as Navitime for navigation or DeNA, parent company of mobile SNS stellar success mobagetown, for shopping and auctions).



Fig. 25.3: auOne portal on Mobile and PC  
Source: KDDI

## 28. Handsets

### 28.1 Handset Market Overview

The Japanese mobile market is unique in many ways and perhaps most noticeably in the OEM (original equipment maker) area. There are eleven domestic makers: Casio, Fujitsu, Hitachi, Kyocera, Mitsubishi, NEC, Panasonic, Sanyo, Sharp, Sony Ericsson and Toshiba as well as seven international device manufacturers; HTC, LG, Motorola, Nokia, Pantech & Curitel, RIM and Samsung. This dynamic creates an extremely competitive and therefore much more innovative ecosystem compared to markets elsewhere.

Unlike other markets, the value-chain for sales and distribution is completely controlled by the operators. The OEM's work directly with the carrier on handset specifications and it is indeed the carrier who makes the direct bulk order - and purchase - of all handsets. Therefore, it's the operator who controls the device roadmap, which has proven to be a key strength for wide user adoption when introducing new applications and services. All handsets are sold sim-locked with long-term contracts, although these can be abandoned earlier, typically 12 - 24 months, through the carriers own retail shops or via 3rd party partners, typically major electronic outlets.

Several obvious success stories prove the value of this strategy and are worth considering. For example, from day 1 of i-mode's introduction every single consumer device sold by DoCoMo includes their famous one-key shortcut to the carrier menu. Moving through the time-line since, we have seen the operators insist on having handsets functions such as cameras, removable memory and Flash as de facto standard features across the range of devices in their portfolio. The more recent status-quo technologies include Felica chips for mobile commerce, ISDB tuners for digital tv and GPS functionality.

The domestic OEM's have had a relatively significant advantage over international makers in that their parent companies are not solely dependent on the cell phone business. Unlike a Motorola or Nokia, Sanyo or Panasonic have more leeway to experiment and innovate. While increasingly we see HQ becoming more concerned about profitability across all units, they do understand the value of branding and R&D that is generated by their mobile divisions. It would also be fair to expect we will see more consolidation between domestic OEM's as they have historically faced the cost-per-unit challenge of producing, in effect, short run boutique handsets which are built to order for the carrier and therefore do not gain relative economies of scale when compared to their overseas competition.

It should also be noted that the local tradition of depending on operators for the sales and distribution, let alone the direct B2B order method, has served to stunt domestic OEM's ability to expand globally. It's becoming rather clear that producing arguably the best hardware anywhere is only part of the equation.

A quick estimate shows in excess of 100 unique models were introduced here over a twelve-month period, 50 from DoCoMo alone, ending January 2007. The following section - Models by Carrier - will provide a simple snapshot of the current devices as offered for the spring 2007 sales season and links to view (in English) the complete inventory, as available, over the last year.

## 28. Handsets

### 28.1 Handset Market Overview

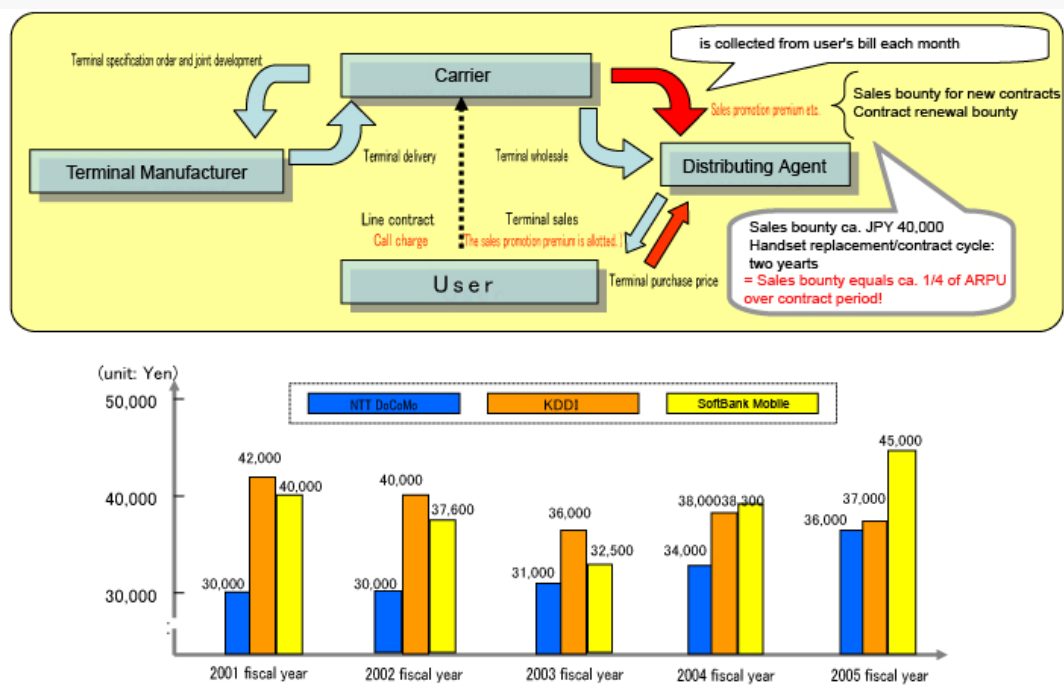


Fig. 28.1: Handset Subsidies System

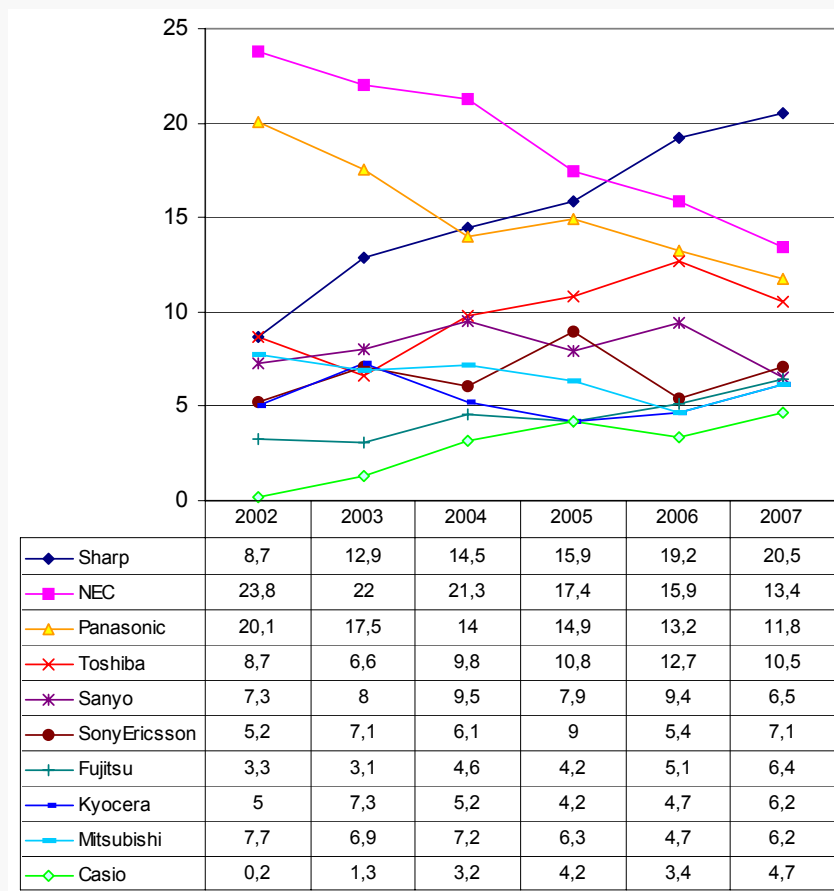


Fig. 28.2: Handset Manufacturers' Market Share in %, 2002-2007

## 28. Handsets

### 28.2 Handset Catalogue

#### 28.2.1 DoCoMo Handsets



#### Services / Functions and Specifications

DCMX "Osai-fu-Keitai"	Uta-hodal	Chaku-Uta Full®	Chaku-Uta@/Chaku-motion	Music Player	Chokkan Game
i-appli	2in1	WORLD WING	PushTalk	Videophone	Deco-mail
i-channel	Chaku-moji	GPS	Keitai-Osagashi	Data Security Service	Omakase Lock

Size *	110 x 49 x 16.8 mm
Height x width x thickness	
* When closed.	

Weight	approx. 114 g
--------	---------------

Main display (size)	approx. 2.8 inches
---------------------	--------------------

Camera (effective pixels)	approx. 3,200,000 pixels
---------------------------	--------------------------

External memory	microSD™ (sold separately)
-----------------	----------------------------

Accessories included	Stereo Earphones (sample)
----------------------	---------------------------

Manufacturer	Mitsubishi Electric Corporation
--------------	---------------------------------

Release date	June 8, 2007
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Price	Open price: Actual prices differ among retailers
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## 28. Handsets

### 28.2 Handset Catalogue

#### 28.2.2 au KDDI Handsets

AQUOS phone with 3 inch wide LCD for enjoying "1Seg" and "Digital Radio"



**AQUOS W51SH**  
by SHARP

LISMO! ビデオクリップ機能 © KDDI

<b>203</b> mega pixel CMOS camera	<b>3.0</b> inch Main display	<b>128</b> MB Capacity of data folder
--------------------------------------	---------------------------------	--

EZ Chaku-Uta-Full®	EZ Chaku-Uta®
EZ Television (1Seg)	EZ・FM
EZ Channel-plus	EZ NewsFlash
EZ Navi for passenger seat	Security Navi
EZ keitai-arrange	EZ Book
Decoration Mail	Hello Messenger
Keitai-Search Service	GLOBAL EXPERT

**MEDIA SKIN** au design project

MEDIA SKIN: An "emotional" phone that combines new feel with beautiful images



LISMO! ビデオクリップ機能 © KDDI

おサイフケータイ

<b>131</b> mega pixel CMOS camera	<b>2.4</b> inch Main display	<b>65</b> MB Capacity of data folder
--------------------------------------	---------------------------------	---

EZ Chaku-Uta-Full®	EZ Chaku-Uta®
EZ Television (1Seg)	EZ・FM
EZ Channel-plus	EZ NewsFlash
EZ Navi for passenger seat	Security Navi
EZ FeliCa (OsaiFu-Keitai®)	EZ keitai-arrange
EZ Book	EZ apps
Hello Messenger	Keitai-Search Service
GLOBAL EXPERT	

## 28. Handsets

### 28.2 Handset Catalogue

#### 28.2.3 SoftBank Handsets



- Widescreen QVGA LCD
- 2-Megapixel Camera
- 1 Seg
- Music Player
- microSD™ Memory Card
- QR Code Reader
- Bluetooth®
- Simple Mode
- Yahoo! mocha
- Live Monitor
- Familiar Usability
- S! Town
- Hot Status / Circle Talk
- E-Comics
- Arrange Mail
- S! FeliCa (Mobile Suica)
- PC Site Browser
- S! Appli
- S! Address Book
- S! Cast
- Video Call
- Chaku-Uta Full@ / Chaku-Uta®

Weight:	125g
Dimensions:	W50×H108×D16.8 mm (when closed, excludes protrusions)
Talk Time:	280 min. (when stationary)
Standby Time:	350 hrs. (when stationary)
Charge Time:	150 min.

# The Japan Mobile Internet Report

## Who should buy this report

Whether you are a mobile operator looking to benchmark some of the most innovative carriers worldwide, a marketer trying to understand where mobile advertising is headed and how brands should interact with their customers via the small screen, a mobile content provider looking for cutting-edge service ideas, a hardware manufacturer or an analyst in search of comprehensive information on the world's most advanced mobile internet market – this is what you should be reading.

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Daniel Scuka & Lawrence Cosh-Ishii,  
Mobikyo K.K./Wireless Watch Japan**

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## Company Profile Wireless Watch Japan/Mobikyo K.K.

Founded in 2001, Wireless Watch Japan is the original, independent news source dedicated to covering Japan's mobile industry, in English, providing in-depth and original coverage via news reports, streaming video & audio programs and a free email newsletter. Our membership includes managers, executives, analysts, engineers, marketers and researchers from Fortune 500 companies worldwide. A division of Mobikyo K.K., the company also organizes MobileMonday Tokyo networking events and operates the Mobile Intelligence Japan guided tour service.

## Company Profile Infinita Inc.

Tokyo-based Infinita was founded in 2005. Originally specializing in technical development and production of mobile websites and applications for the domestic market, the company has since expanded its services to deliver market intelligence and research, providing in-depth analysis from one of the world's hotbeds of technological innovation to a wide range of international clients.

Companies relying on Infinita's services include Softbank Mobile, Deutsche Telekom and Itochu Electronics.

In addition to the research partnership with Mobikyo K.K., Infinita is a strategic partner of the Mobile Consumer Behavior Lab at the International University of Japan in Niigata.