



Market Advisor

Consumer Handsets

Mobile Devices - U.S.

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Market Definition

The consumer handset market segment covers mobile devices used with a tariff-based wireless service that may include a runtime environment (e.g., Java or BREW), but the devices are not built around a user accessible operating system as found in smartphone products. Consumer handsets typically fall into one of three pricing categories: entry level handsets (typically without camera modules), mid-tier handsets (camera phones), and high-end feature phones.

With the exception of smartphone vendors such as RIM and Palm, nearly every handset vendor builds consumer handsets. Consumer handsets make up the vast majority of handset sales for U.S. wireless carriers, with the bulk of sales occurring in the entry level and mid-tier categories. In the U.S., the largest number of consumer handsets is sold by carrier retailers. Regardless of sales channel, consumer handsets in the U.S. market are almost always sold at steep discounts along with postpaid contracts tied to specific carriers. While still a much smaller portion of the overall market – approximately 15% – consumer handsets can also be purchased for use with prepaid services. Consumer handsets for prepaid plans are sold through mass market retail, convenience stores, and other retail outlets which do not typically carry post-paid models.

Market Review

- **Declining Prices:** Nationwide retail data depicts that the average selling price (ASP) of a postpaid phone activated with the longest contract term possible dropped 14% (or \$16) compared to the average prices observed six months ago. Fueling the price decline was the major carriers' aggressive battle tactics to steal customers from each other using heavy handset subsidies as bait. For example, Verizon Wireless launched the Motorola E815, an EV-DO megapixel clamshell camera phone with Bluetooth and expandable memory for \$99, causing prices for competing high-end handsets to nosedive both at Verizon Wireless and at rival carriers. The substantial decline in postpaid phone ASPs translates to more headaches for handset manufacturers that are already being pressured by carriers continuously pushing for further price concessions.
- **Camera Phones Now Mainstream:** Built-in cameras have become standard features for all handset segments other than cost-sensitive entry-level phones and security-conscious enterprise devices. Nationwide carriers' handset portfolio analyses show that lineups of three of the top four carriers featured more camera phones over non-camera devices. At Cingular, 60% of the device offerings featured a built-in camera. Sprint Nextel and T-Mobile followed with 56% and 54%, respectively. Verizon Wireless was the exception, with only 40% of its lineup boasting a camera.
- **Shifting Channel Dynamics:** The carrier retail channel still accounts for the large majority of wireless sales; however, the distribution support provided by indirect channel partners keeps getting stronger. Major consumer electronics outlets offering phones and services from multiple carriers (i.e., Best Buy and RadioShack) are now joined by the mass merchant giant Wal-Mart that caters to still-unsaturated consumer segments; the price-sensitive and credit-challenged consumers. Carriers' approach to getting help in distribution is highly

variant though; the nation's largest carrier Cingular has been actively seeking to expand distribution points with new channel partnerships (available in Best Buy, Wal-Mart, and soon RadioShack once the retailer's exiting contract with Verizon Wireless expires at the end of the year). In contrast, runner-up Verizon Wireless has been shifting focus to its own retail outlets that account for 65% of new sales. Some GSM vendors – notably Nokia and Sony Ericsson – have also begun selling niche models direct to consumers over the Internet and at their own retail stores and mall boutiques.

- **Motorola Back in Business:** Motorola has had a remarkable comeback under the leadership of Ed Zander and turned a continuously money losing operation into the industry's most high profile handset vendor. Motorola's key to success was the unique balance it created between low and high-tier products both in the U.S. and globally. It boosted market share by flooding emerging markets with low-margin entry-level models, and made up for the margins on its iconic RAZR phone that offered a mid-tier feature set at a high-tier price point.
- **New Niches Needed to Fight Market Saturation:** The exponentially growing wireless penetration has left the market players with two options: stealing customers from each other (which big guns like Cingular and Verizon have perfected following the WLNP), or creating new niches. New entrants like Firefly and Enfora see an opportunity in the market by targeting children with special design phones featuring parental controls, while Nokia tried targeting fashion conscious women with the 7280 "lipstick phone."
- **Faster Networks:** Verizon Wireless launched EV-DO and provides faster data speeds to enough of the country to launch V CAST, a consumer EV-DO service initially centered around streaming video clips. This has spurred Sprint Nextel to accelerate its own EV-DO network launch. The carrier rolled out its EV-DO service for business users (available on PC cards only) in 34 markets and the consumer service rollout is right around the corner. Likewise, Cingular's acquisition of AT&T Wireless - adding that carrier's national EDGE deployment and limited UMTS networks – was followed by the announcement of accelerated UMTS High Speed Downlink Packet Access (HSDPA) deployment plans.

Near-Term Market Drivers

- **Handset Gadget Quotient Continues to Rise:** While still not equal to Japan in terms of cultural acceptance of technology, U.S. consumers are increasingly moving in that direction, having adopted digital cameras and Apple iPods in the tens of millions. Consumer handsets will follow this trend, emphasizing imaging and music. Megapixel and multi-megapixel cameras will become mainstream for high end consumer handsets, and camcorder functionality will move down into less expensive camera phones. Bluetooth will be added to more devices now that all the national carriers support the technology (at least for wireless headset connectivity). Video playback will be pushed into mid-tier devices as carriers roll out 3G networks – or push existing 2.5G networks to compete. 3D game-capable phones will be launched, but promotion may stall in the face of a new generation of mobile gaming consoles from Nintendo and Sony. Mapping applications that take advantage of phones' GPS capabilities will start appearing on smartphones. Finally, mobile music playback – whether stored or streamed – will be a major focus of handset vendors, carriers, and the RIAA.
- **Fight to Expand Subscriber Base to Adversely Impact Handset Pricing:** Wireless carriers have long been counting on handset subsidies for boosting their customer base, and the market consolidations fuel the momentum of this trend. Verizon Wireless has brought the price of all consumer handsets, including the high-end EV-DO models sporting megapixel cameras, MP3 players, and stereo speakers below the \$100 mark.

Cingular lowered the price of the iconic Motorola RAZR from \$499 to only \$199, which then forced the carrier to adjust pricing on other high-end devices such as Sony Ericsson's S710a. Carriers' continuous price drops for the sake of adding new subscribers will increase the pressure on the device manufacturers. Manufacturers are not only asked to lower trade prices to hit price points, but must also keep up with the carrier's de facto benchmark feature set for each price tier.

- **Increased Focus on Design:** As Motorola has demonstrated with its RAZR V3, consumers are willing to pay a considerable price premium for designs that stand out from the crowd. With basic voice phones a commodity and functionality matched among mid range products, design is becoming the key differentiator. Motorola is expanding its RAZR line into bars, while Nokia, criticized for stale bar designs, is broadening its range of form factors – including clamshells, sliders, and twisting camcorder-like styles for its N series line. Samsung is readying a slim clamshell phone to challenge the RAZR head on, and LG has followed as well, at least for the Korean market.
- **Music is King:** Following the success of camera phones, the latest push in mobile devices is the music phone. Almost every major handset vendor – Nokia, Samsung, LG, Kyocera, Sony Ericsson, BenQ, Siemens, etc. – has announced a phone with a media player applet, extended media storage space, and dedicated buttons for music playback. Nokia joined forces with Microsoft (for the Media Player synchronization) and Loudeye, and is working on a 4GB hard drive music phone (the N91); Sony Ericsson revived Sony's Walkman brand; however, none of these has gotten as much press as the soon-to-be-announced iPodphone from Apple and Motorola. The device vendors are doing their part of the job as far as commercializing the music-enabled devices; however, the take-off of these devices is highly correlated with the business models carriers will opt on.
- **3G Networks Broadly Deployed:** Richer consumer services are possible when the data flows faster. With EDGE deployed by Cingular (and eventually T-Mobile), and EV-DO being deployed by Verizon and Sprint Nextel, devices can offer new possibilities. For U.S. consumers, streaming media is the most likely service to succeed in the near-term, as it is already familiar to many from the Internet and from satellite radio, which some services may resemble.
- **Garden Walls Stay Up:** Verizon Wireless and Sprint Nextel have built impressive user bases for their BREW and Java environments, enabling subscribers to send multimedia messages, download ringtones and games, and access limited information services. While handsets are becoming more capable, both companies are loath to let their subscribers out of the walled garden and relegate their role to providing dumb pipes. While both now have Bluetooth handsets on their networks, both prohibit vendors from including the data exchange and synchronization profiles users need to move photos, ringtones, and games on and off the devices without using the carrier networks. The walls will tumble eventually, but in the short-term there is too much at stake for the carriers to let consumers roam free.
- **MVNOs Create New Markets:** With the success of Virgin Mobile and a willing host with network provider Sprint Nextel, several new mobile virtual network operators (MVNOs) including Disney and ESPN are planned for launch over the next year. Verizon Wireless has also jumped on the MVNO bandwagon by opening up its EV-DO network to youth oriented Amp'd Mobile that will roll out services in the next several months. These brands will attempt to bring unique service attributes to the market, which will depend on distinctive handset features and designs, offering new opportunities to vendors stifled by the collapsing number of national carriers and decreased shelf space.

Long-Term Market Drivers

- **Voice Comes First:** U.S. consumers talk – a lot. The U.S.’ consumer voice usage per month is the highest in the world, fueled by inexpensive fixed price postpaid plans with enormous buckets of minutes, free nights, and free weekends. Voice is reinforced by U.S. commuting habits – typically in cars, where voice is possible, but data features cannot be used. In consumer surveys, small size is the number one requirement for mobile handsets – consumers demand pocketability for a device they take everywhere. As such, large screens, multiple keys and controls, and the large batteries needed to power secondary functionality often work at cross purposes to the primary goal – making phone calls. Consumers are buying the device first and foremost as a phone, if voice functionality is compromised by design or feature-creep, it is no longer a phone.
- **Price Comes Second:** While Motorola has proved with the \$499 (original price) RAZR that there is no price ceiling for a small subset of the market, there is an absolute price floor: \$0 U.S. consumers are extremely price sensitive, and carriers have created this monster by pushing so many incentives on consumers that they understandably feel phones were meant to be free. By keeping the trade price of phones a closely guarded secret and publishing MSRPs that often already include carrier incentives, the entire marketplace is devalued. As a result, every phone must compete with “free” – the consumer must feel that the additional features or design are literally worth paying for. Mid-tier phones are not immune: Cingular offers a color clamshell camera phone with 3D gaming and EDGE networking for free, Sony Ericsson’s z500a. Aside from high-end feature phones and fashion/design statements – where consumers will pay for scarcity and newness – pricing and incentive strategies will continue to be the most significant determinant of which handsets will be successful.
- **Carriers Retain Power Over Vendors:** With higher year-on-year carrier incentives, carriers have bought their power over vendors. With CDMA commanding the largest share of the U.S. market and the national carriers consolidating, there are even fewer opportunities for a customer to buy the device first, then choose a carrier. Consolidation also means less shelf space, forcing device vendors to have hit devices or get left out entirely. Cingular and T-Mobile have learned from Sprint Nextel and Verizon Wireless that specifying “house” devices or demanding exclusives leads to differentiation and can lead to subscriber wins (e.g., Motorola’s initial exclusive deal with Cingular for the RAZR V3). Despite the SMS example (“it only took off once it was cross-carrier”), proprietary, closed systems have been successful in the U.S.; examples include Nextel/Motorola’s iDen PTT, Verizon Wireless/Qualcomm’s BREW, and Sprint’s Vision photo messaging. Verizon has pushed this concept even further by demanding its own custom user interface across handsets from different vendors.
- **Convergence and Conflict with Consumer Electronics:** Mobile consumer electronic gadgets in the U.S. have gone mainstream, and the market is no longer limited to a small group of early adopters. Digital cameras have well over 50% market penetration in the U.S. Apple’s iPod has only 10% market penetration, but has sold sixteen million units to become a cultural icon. Now, convergence moves into the \$99 price range of mid-tier handsets. As the secondary functionality of converged handsets crosses the “good enough” threshold, these devices will increasingly impact entire consumer electronics categories. At the same time, “Frankengadgets” – monster gadgets that bolt convergence features on for convergence’s sake – will continue to be expensive failures in the marketplace. Vendors will have to choose whether to integrate functionality completely, partly, or act as a complementary device.
- **Battery Life is Consistent Limiting Factor:** High-end feature phones will have ever faster networks to run on, faster processors to use, huge improvement in storage capacity, VGA screens, dedicated video processors, and advances in camera phone optics and sensors. However, all of this innovation impacts power consumption.

Vendors can offer removable or extra life batteries, but that doesn't address the problem. Vendors could offer emergency battery life for voice functionality (either physical or in software), although none have. But usability of the new features will continue to be constrained by the lack of progress in battery size, weight, and life.

- **Increased Tension Between Smart and Dumb:** Competition will intensify between high-end feature phones and moderately priced smartphones. On the components front, increases in embedded and removable storage and falling prices of the powerful processors needed for OS use will be key factors. On the demand side, carriers will continue to see a need for both closed solutions that they fully control – feature phones – balanced with appealing “open” devices using an OS.

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Markets: Mobile Devices - U.S.

Company	Current Perspective	Tier	Status	Momentum	Vision
LG Electronics - MD	Neutral/Positive	1st Tier	Mature	Neutral	Neutral/Positive
Motorola - MD	Very Positive	1st Tier	Mature	Very Positive	Positive
Nokia - MD	Negative/Neutral	1st Tier	Mature	Neutral	Positive
Samsung - MD	Positive	1st Tier	Mature	Positive	Very Positive
Sony Ericsson - MD	Negative	1st Tier	Mature	Negative	Positive