

# Convergence or Divergence

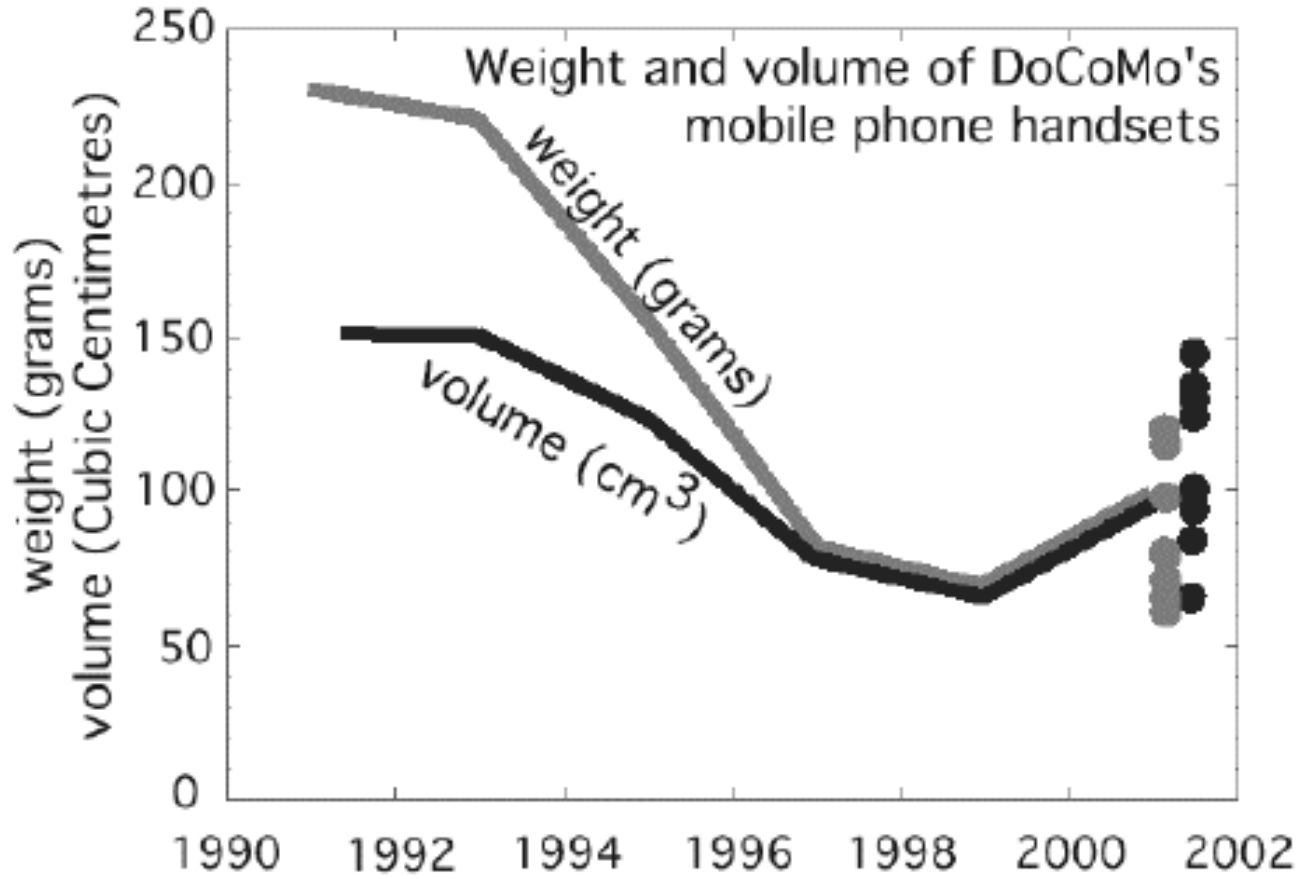
Will People Carry Multiple Devices  
Or An All-In-One Device?

# Questions:

- One device or two?
  - Whatever you like, based on your job and your lifestyle
  - You will probably own more than one (greater than 100% penetration)
- PDA or phone?
  - Neither
  - Form factor will range from smart dust to laptops, with 10 or 20 market segments
- Too many devices?
  - Less than 1% of cell-phone users carry a PDA

# Will Consumers Accept Larger Handsets For Data?

Answer: They did not in Japan.



# WitSoundView: Handheld Computing (Industry Report, November 9, 2000)

## ***“Convergence or Divergence?”***

The tendency of devices to diverge, not converge, suggests that competition between mobile phone vendors and handheld vendors may be less than many investors expect. To be clear, we are not saying that handheld computing devices will not have integrated wireless voice or Internet access capabilities. Some surely will. But the majority of handheld computers we believe will not.

**Devices tend to diverge not converge.** We believe the same will be true of most mobile phones and handheld computers for at least the next two years. All-in-one devices tend to have limited success as consumers value simplicity, reliability, low cost, small and lightweight form factors, flexibility, battery life and protection from obsolescence. It has proven very difficult for vendors to optimize for these factors in an all-in-one device. Low cost is particularly important for consumer markets. However, for the foreseeable future an all-in-one device will likely cost several hundred dollars more than a separate mobile phone and handheld computer.

**The empirical data is already proving the thesis.** The most popular cell phones are the lightest and smallest ones. The most popular handheld computer – by a huge margin – is the smallest and lightest one, the Palm V. All-in-one devices so far have failed to reach a high unit volumes (e.g. Qualcomm PDQ).

**History says divergence, not convergence is the rule.** The all-in-one TV-VCR never made it past niche market status. This is the same with the calculator wristwatch. Radios, computers, TVs, CD players, phones and calculators are all device that diverged. Radio was just radio. Now there is AM radio and FM radio. There are car radios, headset radios, clock radios, cable radios and portable radios. We started with a mainframe computer. Now we have desktops, laptops, ultraportables, handhelds, midrange servers, server appliances and more. ”

# Accenture: Everything Has Its Place (Research Note, January 18, 2001)

“A close look at real users of mobile data, especially in the advanced wireless nations, reveals that consolidation is not critical. In fact, pushing for it may even slow the very adoption curves that U.S. players wish to accelerate. Around the beginning of 2001, we conducted surveys and focus groups on mobile data use in six countries around the world. We found that those user populations that are leading the shift to wireless still find good reason to use many of the devices that the ultimate mobile device might theoretically replace.....

The bottom line? To capture widespread use, and all the economic leverage that implies, mobile devices don't need to do everything that computers, telephones, and pagers do now. In fact, they shouldn't try, not only because of the technology, investment, and user learning that is required, but because real users clearly prefer using different devices for different purposes.”

# Merrily Lynch: Appliances Are In Full Bloom (Research Bulletin, May 3<sup>rd</sup>, 2000)

- “Our appliance panel provided insights on the future of wireless devices. The panel included Mr. Balsillie (of RIM) and Mr. Yankowski (of Palm), along with William Son, CEO of smartphone maker NeoPoint and Seth Goldstein, a venture capitalist from Flatiron Partners.....There was unanimous agreement that most people will use multiple electronic devices in the future, despite the ideal of an all-in-one cell phone/data device combo.”

# DataWind's Strategy:

Offer an untethered cell-phone accessory

- No need to change your phone: Get the nicest, tiniest phone you want
- No need to change your wireless carrier: Works with all carriers and all networks