



Crazy for *Keitai* : Mobile ubiquity in Japan

Lara Srivastava, Strategy and Policy Unit (ITU)

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Note: The views expressed in this presentation are those of the author and do not necessarily reflect the opinions of the ITU or its membership. Lara Srivastava can be contacted at lara.srivastava@itu.int

Background



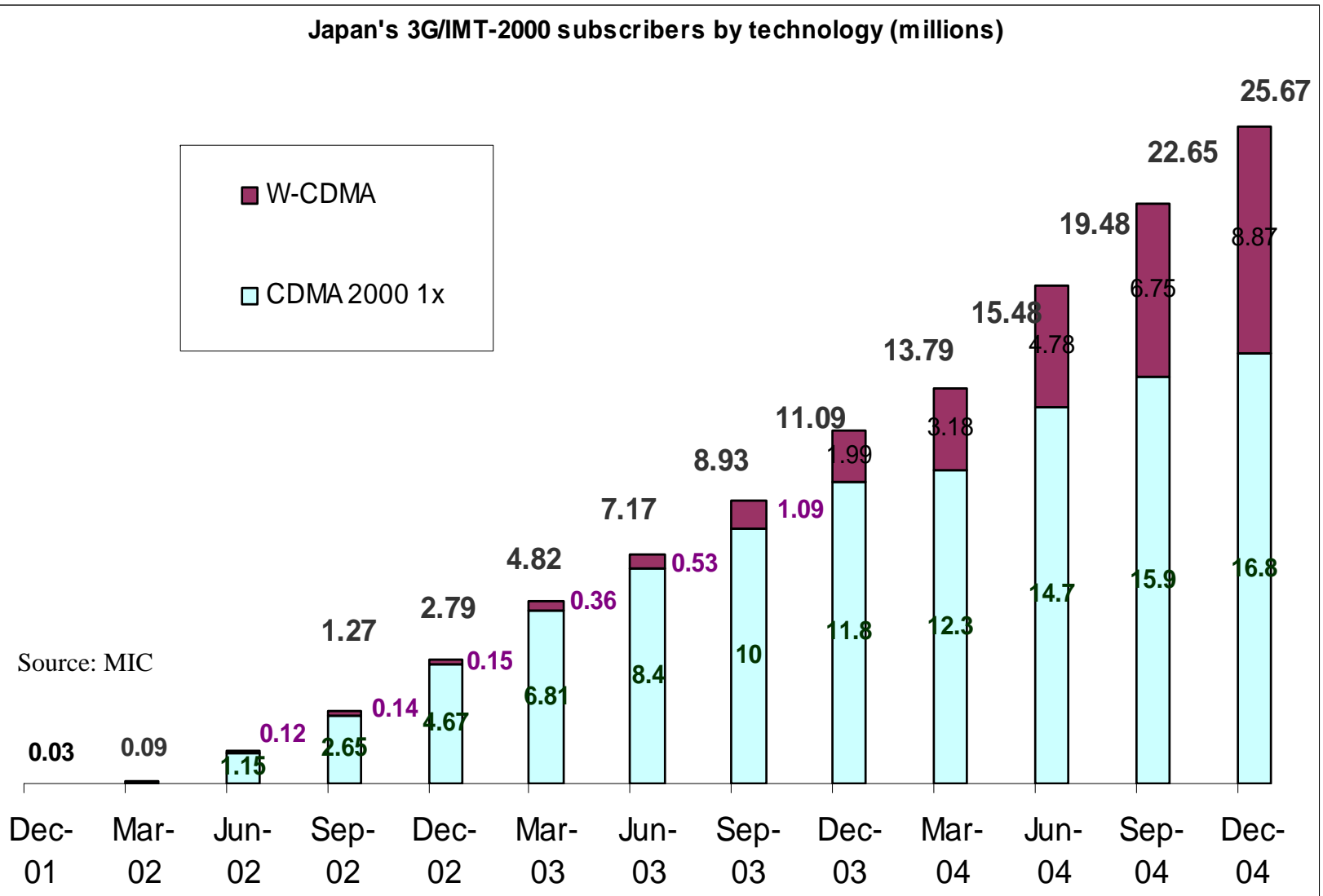
Why Japan?

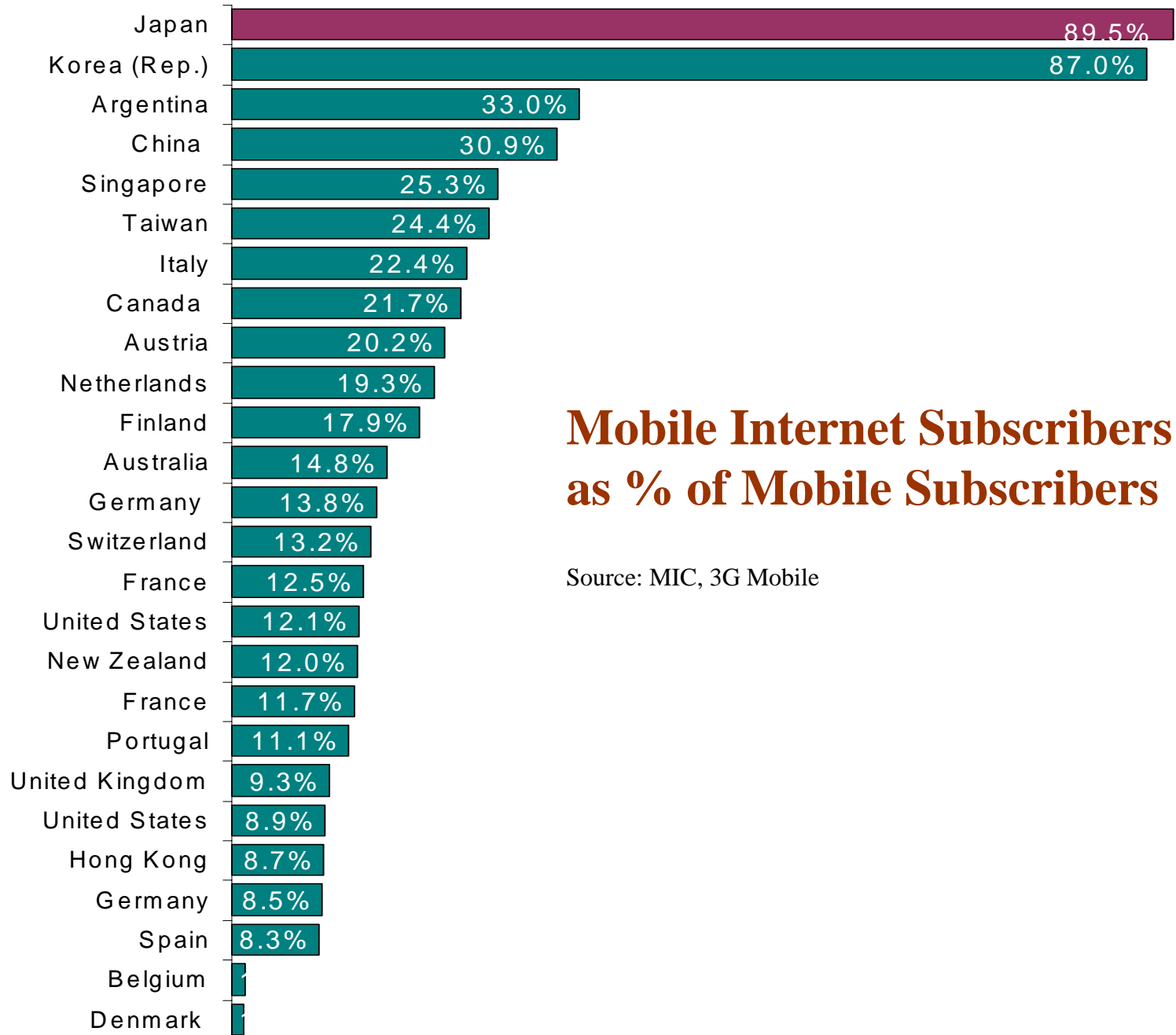
- Tech-savvy population
 - Popularity of consumer electronics on the whole, and particularly the mobile phone
- Mobile phones as ubiquitous & indispensable fashion statements
- One of the first countries to launch IMT-2000/3G
- Nation with cheapest broadband access in the world (Source: ITU)
- Government implementing a number of strategy initiatives geared specifically towards the further development of a “ubiquitous network society”



3G or IMT-2000 "Keitai"

Japan's 3G/IMT-2000 subscribers by technology (millions)

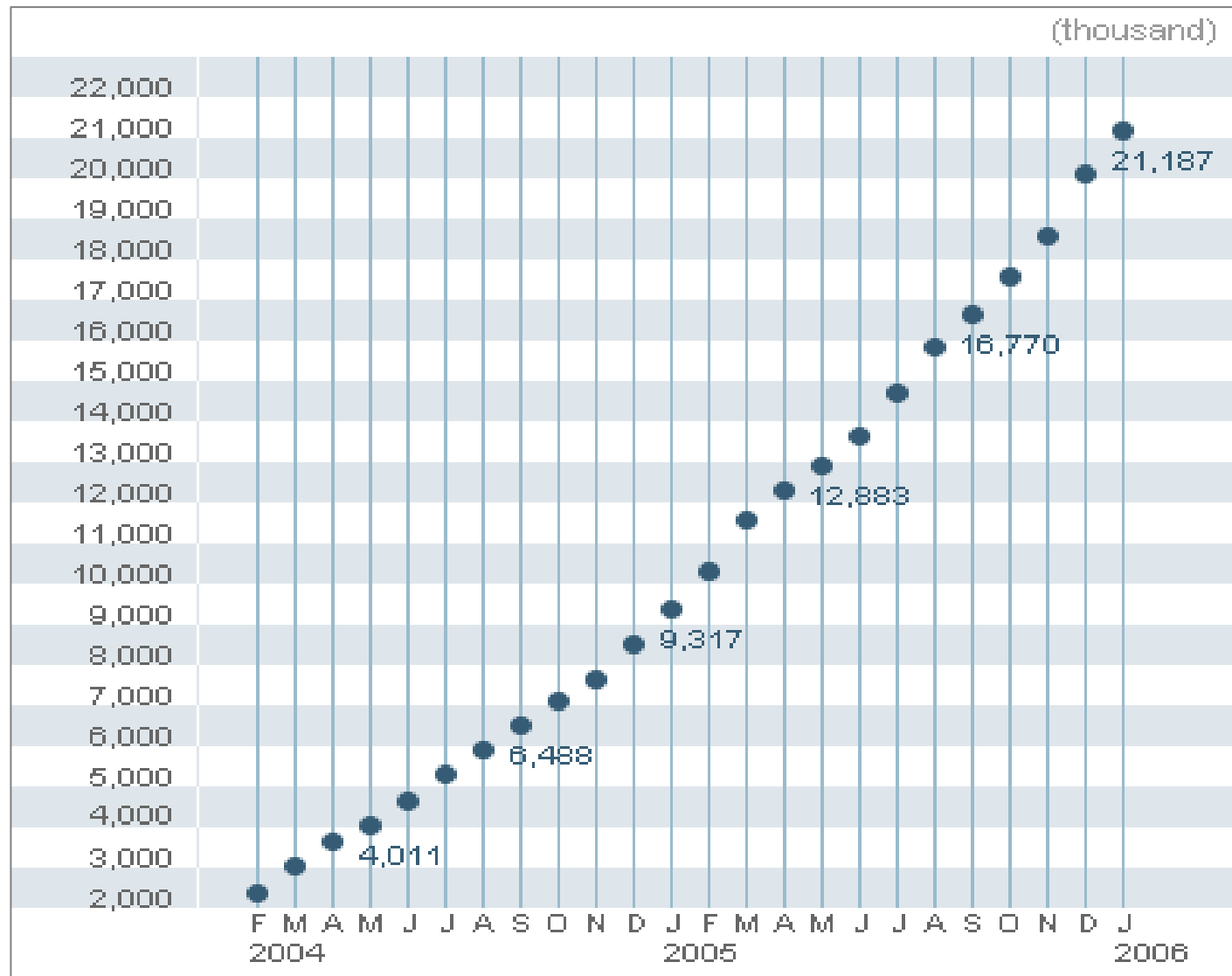




Mobile Internet Subscribers as % of Mobile Subscribers

Source: MIC, 3G Mobile

3G – WCDMA subscribers



The “*Keitai*” Context

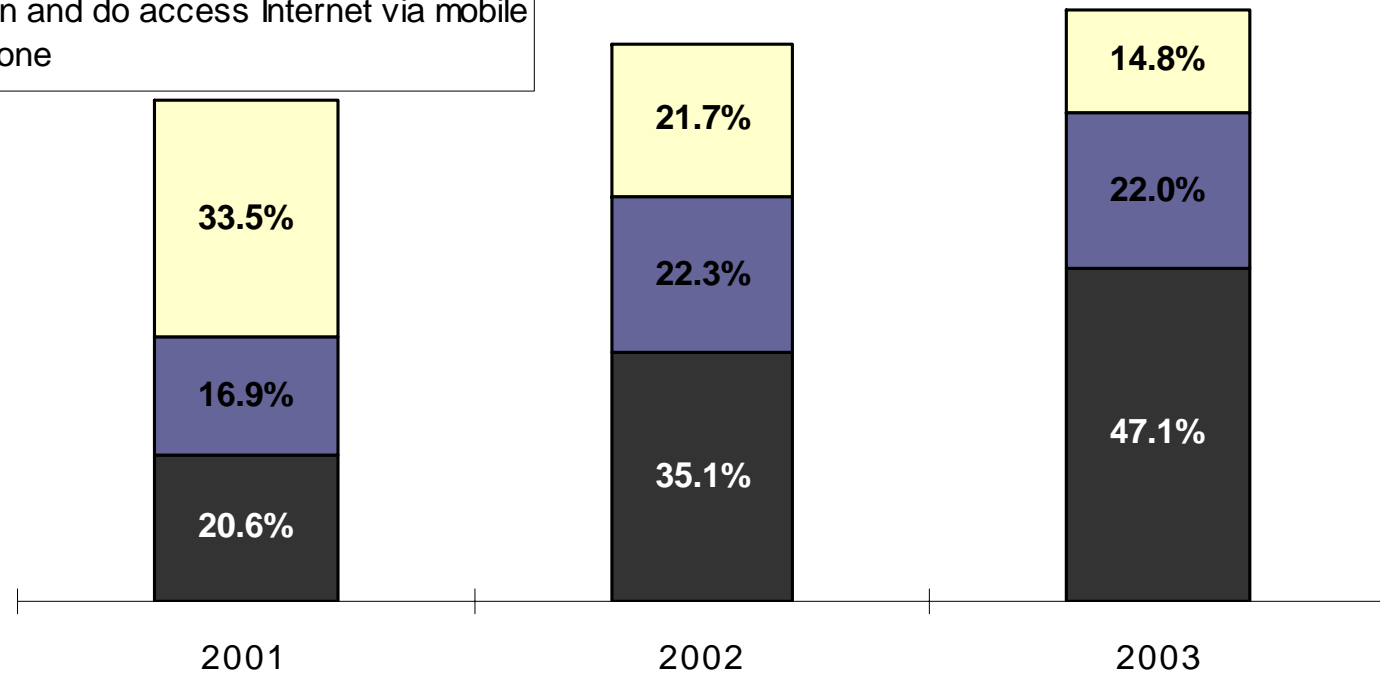
- Success of mobile Internet
- Operator-led mobile sector
- Revenue-sharing for content
- Early introduction of IMT-2000/3G services, including e.g. video services
- Recent introduction of flat-rate 3G billing
- Ubiquitous network society
 - Active governmental programmes and policy



Mobile as Internet access method

Mobile Internet Usage in Japan (2001-2003)

- Unable to access the Internet via mobile phone
- Internet can be accessed via mobile phone, but don't use it
- Can and do access Internet via mobile phone



Mobile internet is everywhere

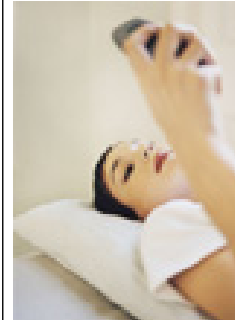
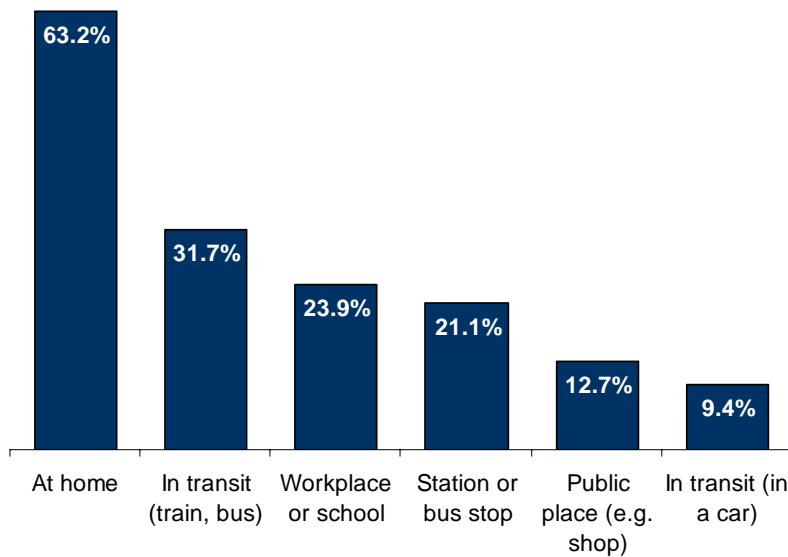


Patterns of use

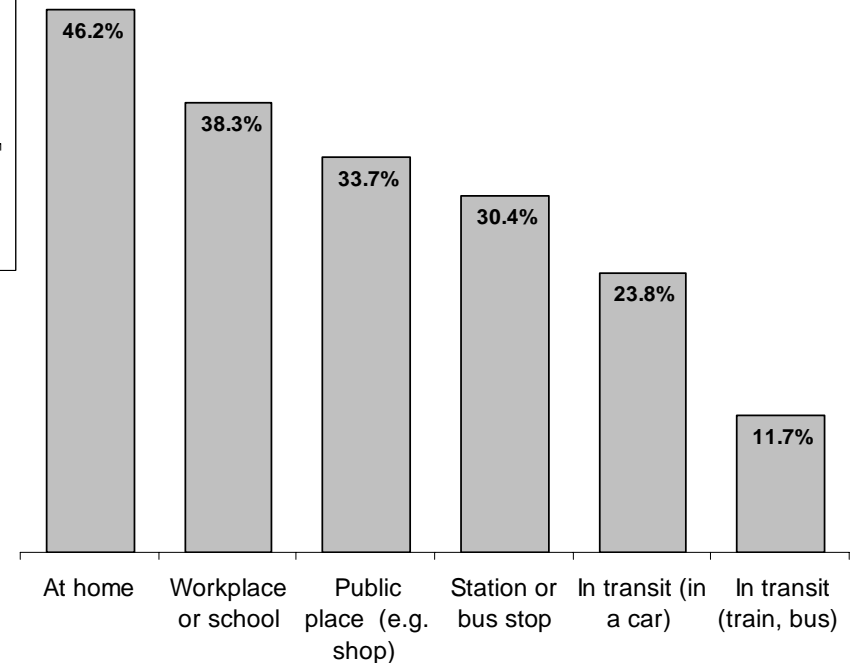


Mobile: not only for 'on the move'

Location when using mobile browser (2002)

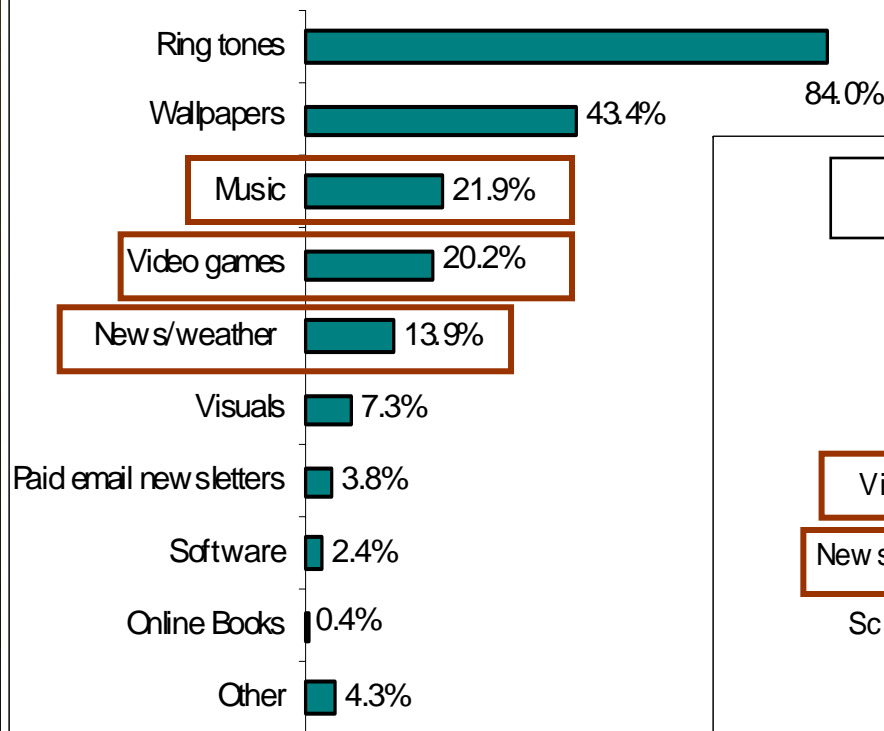


Location when making mobile calls (2002)

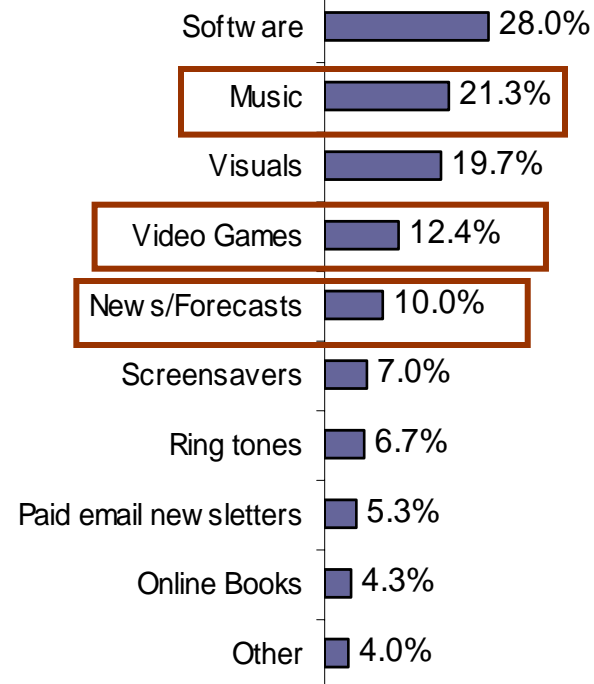


Content accessed through near-ubiquitous mobiles vs. PCs

Mobile Content (2003)

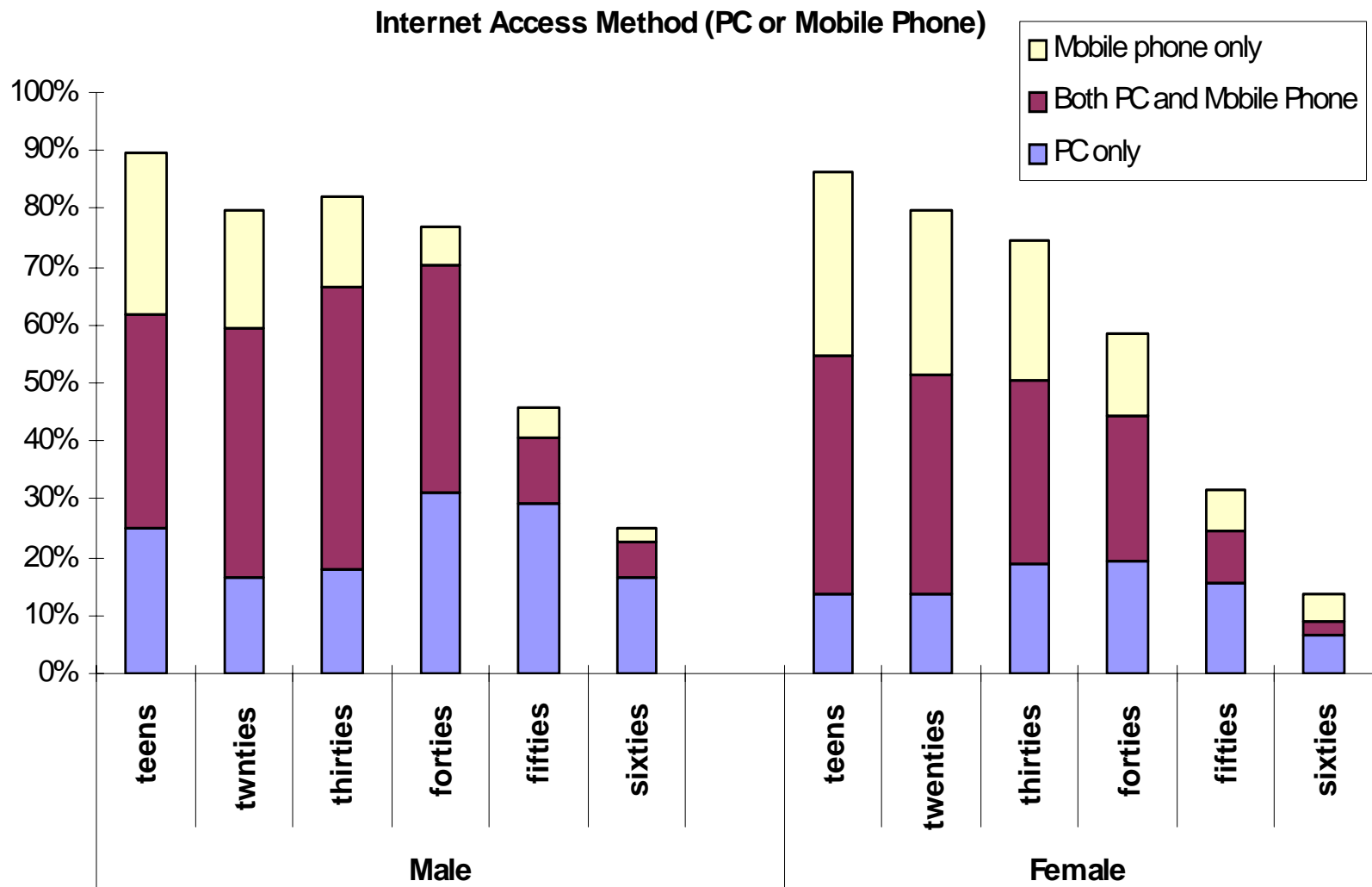


PC Content (2003)



Source: MIC

The role of age and gender



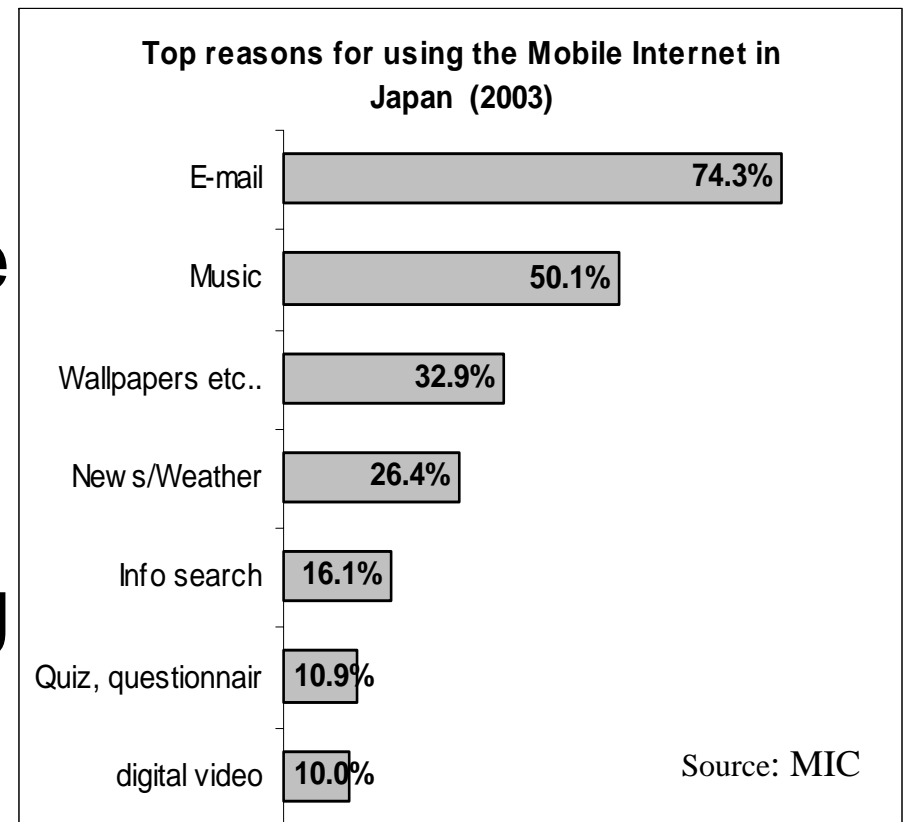
Source: NRI

New devices for anytime
anywhere access



New applications and services

- IMT-2000 or 3G
- Audio and video
- LBS (*ima-doko*)
- Mobile gaming
- Multimedia home
- In-vehicular applications
- Vending/ticketing
- Digital Wallets



Keitai Device Evolution



DoCoMo SO504iC
With Felica card for payment/transport



Vodafone V601N
With built-in TV tuner



TU-KA TS41
First “sonic speaker” handset with
bone conduction technology



DoCoMo SH2101V
PDA-style terminal with
detachable pen-sized
handset

Enter: mobile digital wallets

- Since March 2005, service by NTT DoCoMo, integrating using contactless smart chip, FeliCa (widely used for public transport)
- Services include:
 - Cash withdrawal at ATMs
 - Shopping at kiosks, vending machines
 - Tickets for transport (air, rail...)
 - Ticketing for concerts, cinemas and theatres
 - Member's card of sports clubs and shops
 - Key/ID to unlock automatic doors of home and companies
 - online shopping



But ubiquity also means access for all segments of the population

- Great demand for simple mobile handset for those not wishing/needing to use Internet or cameras
- TU-KA, KDDI's 2G arm, released this simple handset (*Tu-Ka S*) in Nov 2004.
- *Tu-Ka S* has no LCD display or users manual, and has been a smash hit for users over 60!



New network developments



So what's next in Japan

- Japan is aiming for a “*ubiquitous network society*”, that is to say a society in which there is “anytime, anywhere” access, for “anyone and anything”
- Since 2003, MIC has been working closely with industry and academia to stimulate the development of ubiquitous networks
- The current focus is on three technologies:
 - 1. *Microchip network technology*
 - 2. *Ubiquitous network identification and agent technology*
 - 3. *Ubiquitous network control and management technology*

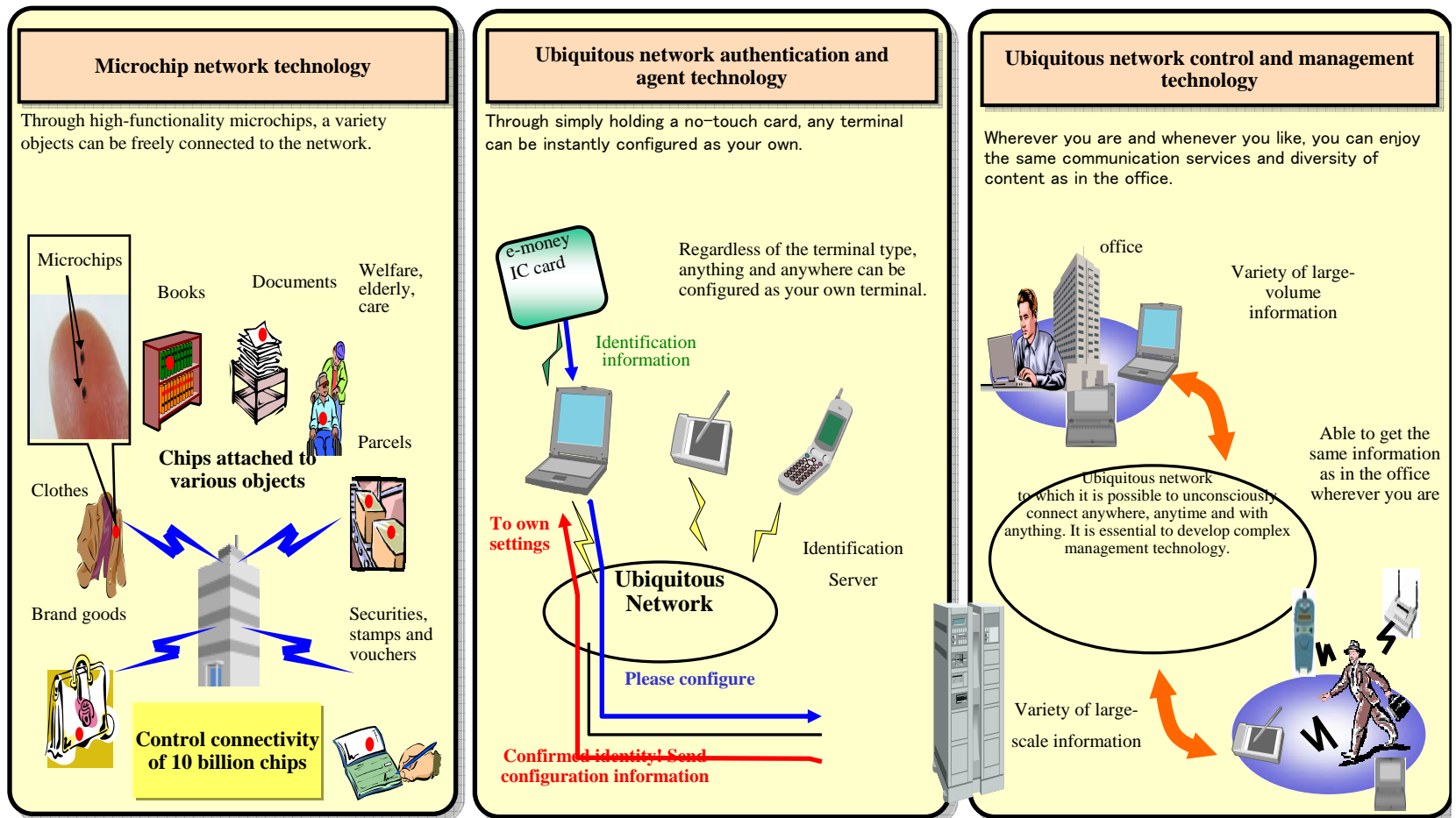


... in more detail:

- Microchip network technology:
 - Network technology enabling cooperation and control of large volume of microchips, in an environment where all devices are attached to the network
- Ubiquitous network identification & agent technology
 - Identification and agent technology that, with the use of a contactless card, makes it possible to identify the individual instantly. That individual should then be able to use any terminal, anywhere. This terminal is to have the same configuration as the individual's own terminal
- Ubiquitous network control & management technology
 - Technology to manage and control the network, allowing the user to connect to the network anywhere, at anytime and providing the optimal communication service environment, based on the user's particular situation at a given time



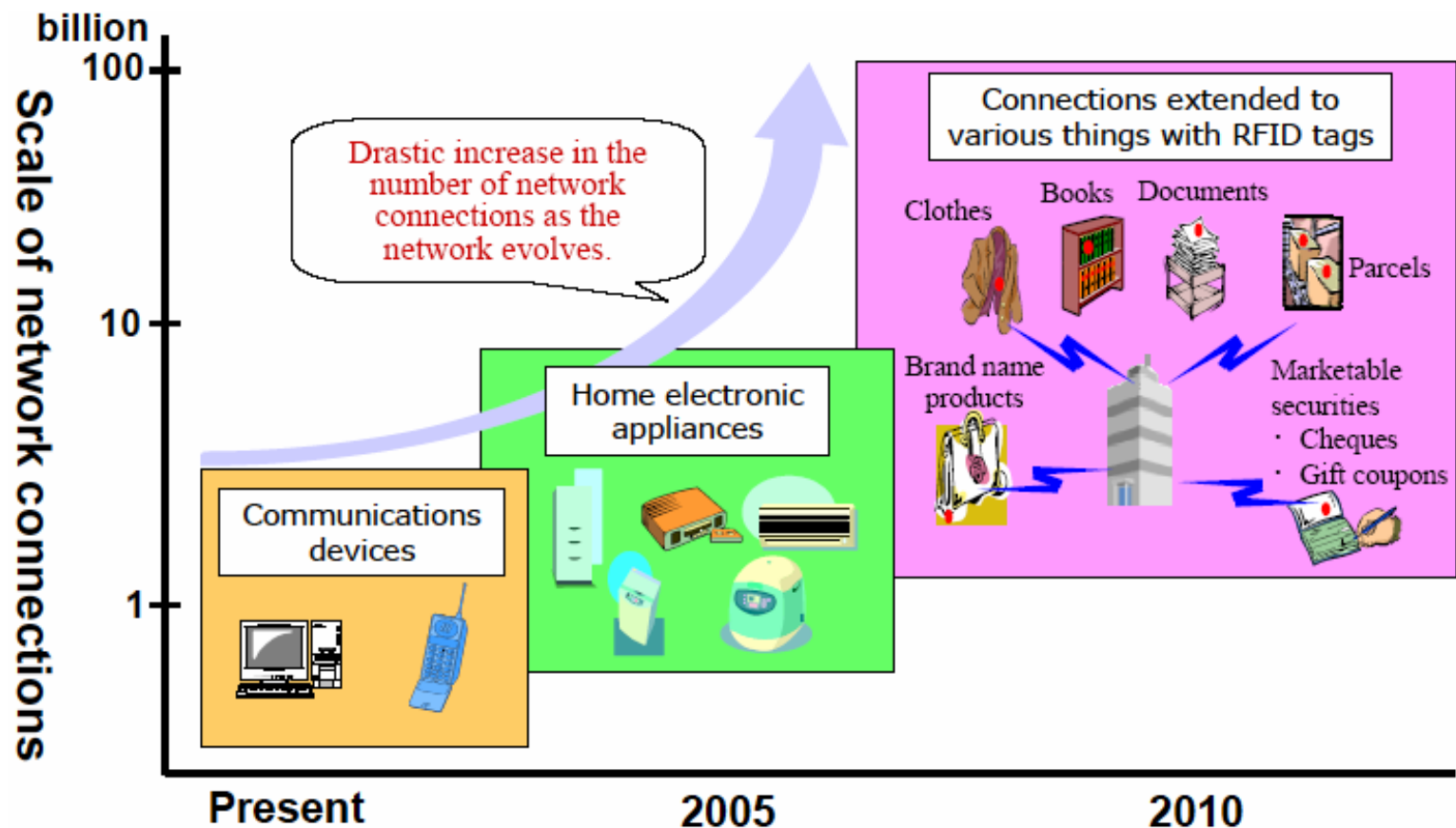
The three-part approach



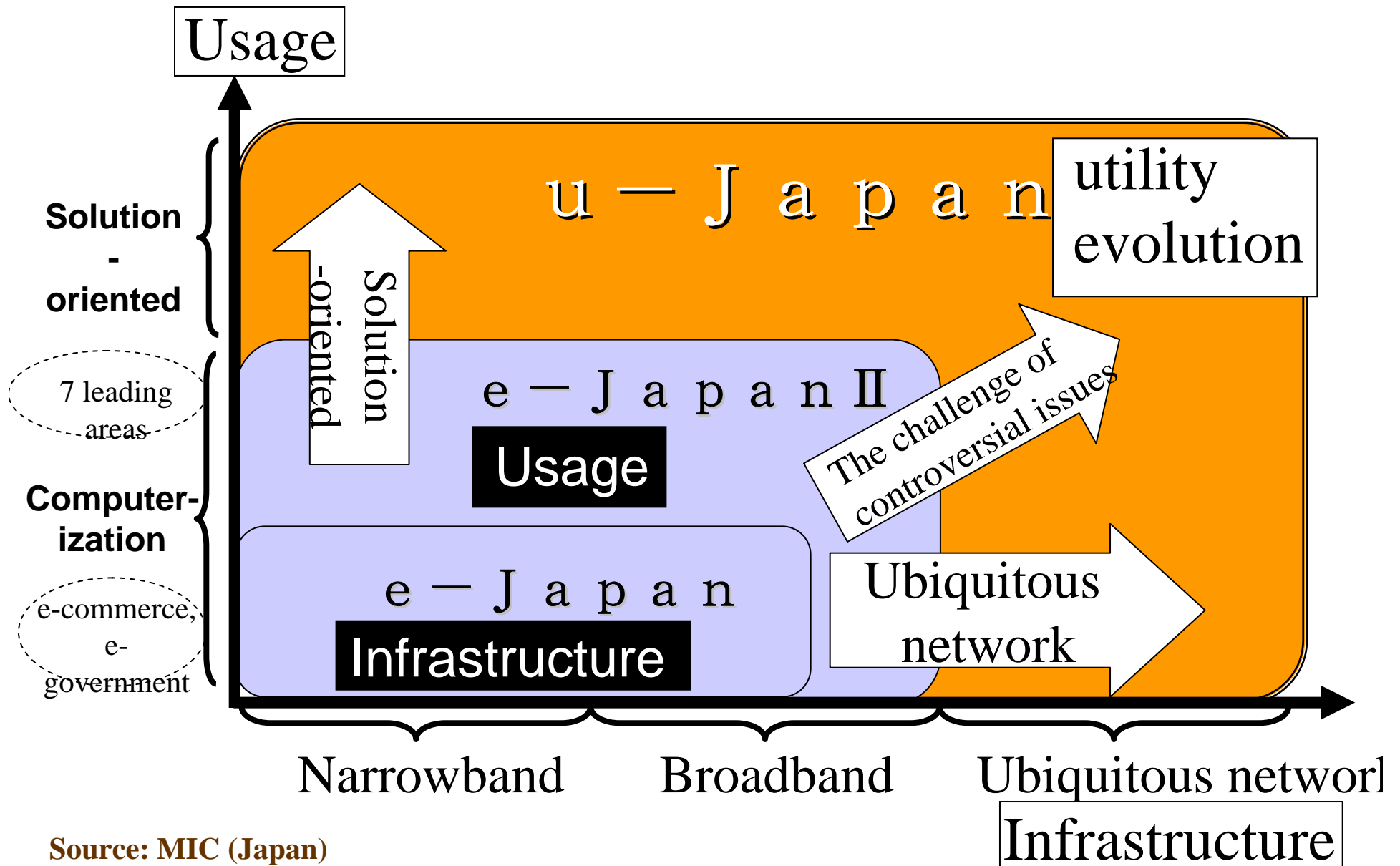
Source: MIC

The path to ubiquitous networks

The increase in the scale of network connections over time



From E-Japan to U-Japan



Source: MIC (Japan)

Highlights: Chips and Codes

- RFID
 - In Roppongi Hills trial – read or shop?
 - Sushi à la RFID
 - RFID tracking and transport
 - Mobile digital wallets
- The DoCoMo 2D Code
 - With this, mobile can read data from a simple code
 - Eventually hyperlinks will be included
 - A first step to the T-Engine Forum's "*Ubiquitous Communicator*"?



Japan's Concept of the Ubiquitous Network Society

Ubiquitous Network Society

Ubiquitous


Everyone and Everything
Connected to Networks

Universal

**User-
oriented**

Unique

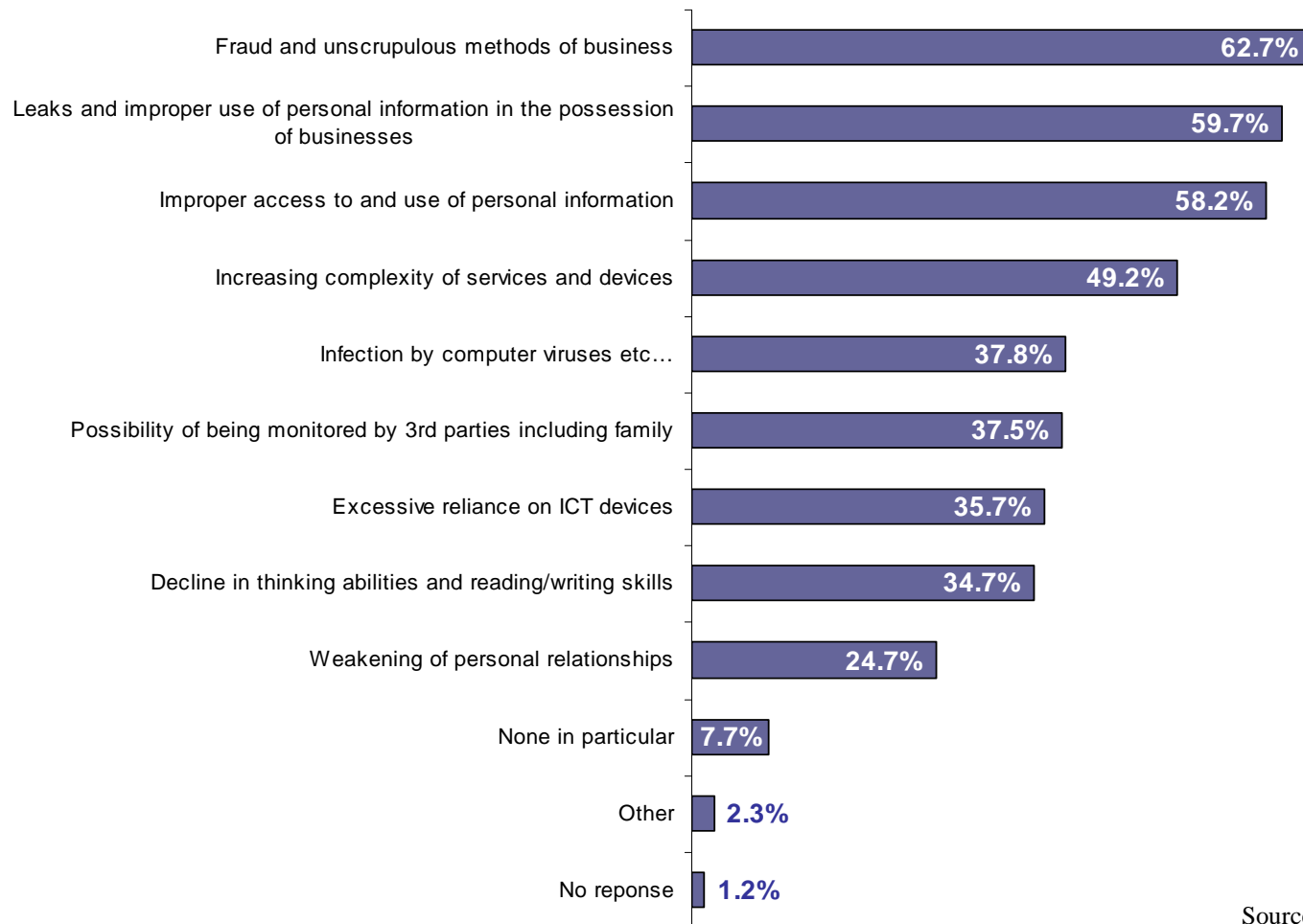
4U = For You



4U:
Consumer protection
and etiquette

User concerns relating to ubiquitous communications...

User concerns relating to their use of ubiquitous network services (2003)



Source: MIC

... addressed by Japan's Charter for "Ubiquitous Network Society"

Establish a charter summarizing the basic principles and shared understandings for the ubiquitous network society

Ubiquitous Network Society Charter (Draft)

Preamble

Latent potential of ICT and its role in future society
Ubiquitous network society — definitions, objectives and significance
Balance between free and diverse information distribution, and safe and secure information distribution
Positioning of the Charter

Free and diverse information distribution

Information access & dissemination rights
Information diversity
Promotion of information technology in business and society
Information literacy

Safe and secure information distribution

Privacy
Information security
Intellectual property rights
Information ethics

Balance

Support

Construction of new social infrastructure

Balance between the real society and the cyber society

Systems for local and international coordination and cooperation

Protecting Data and Consumers

- Camera phones and privacy
 - Sounds
- Enhanced personal ID functions
 - Accessories
- Data protection and privacy
 - MPHPT study groups
 - National legislation
 - Guidelines



DoCoMo F505i
With fingerprint sensor

Privacy: the case of spam in Japan

2001 spam "to mobiles" increased dramatically

- Self-regulation by mobile operators
- Administrative guidance by government to implement new measures

2002 Two Laws were enacted

- Legislation of Anti-spam Law & Amendment of Commercial Transactions Act
(For PC spam as well as Mobile spam)

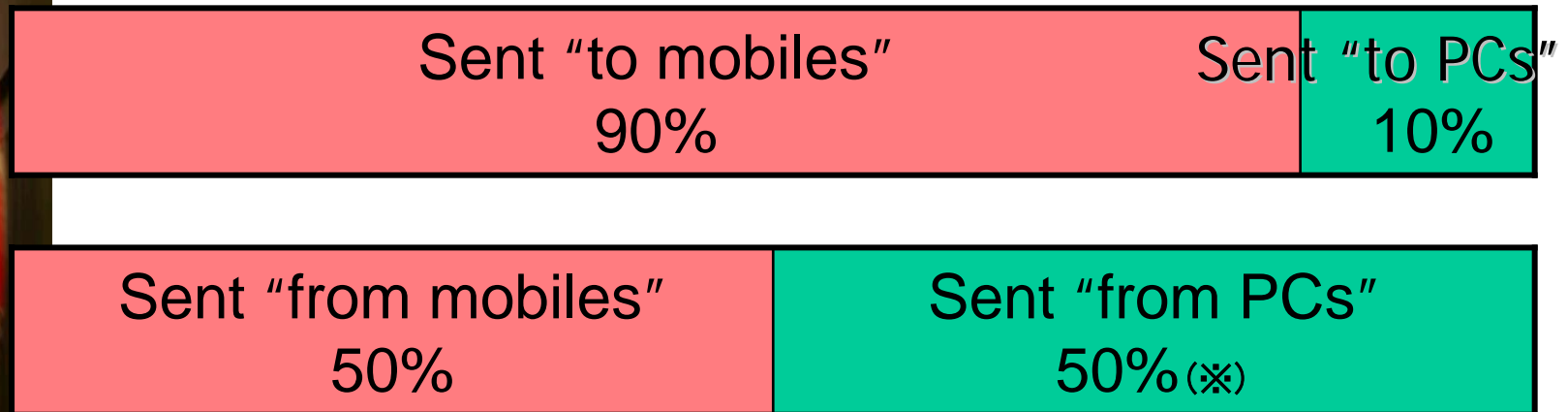
2003 Spread of Domain-Designation Service (to Block PC spam)

spam sent "from mobiles" increased

- Self-regulation by mobile operators
(*...and then it decreased*)

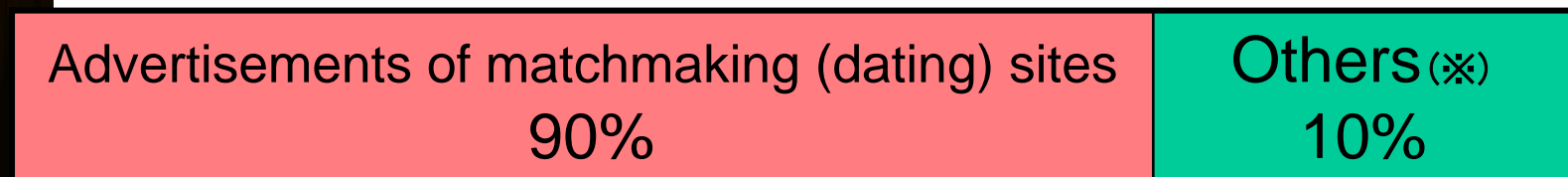
Spam: Mobiles vs PCs

Device



※ Due to disguised sender's name, the real rate is suspected to be higher.

Type of spam



※ porno, drugs, software, etc.

Source: Survey by Japan Computer Communications Association, 2003 fiscal year

Japan's Law on Regulation of Transmission of Specified E-Mail

Opt-out

Transmission of specified electronic mail to a person who has indicated he/she does not want to receive such mail is prohibited.

Labeling

Obligations of labeling for senders of specified electronic mail

- ① Identification as Specified electronic mail (Label "未承諾広告※")
- ② Sender's Name/address ③ Sender's E-mail Address ④ Opt-out E-mail Address

Penalty

- Administrative Orders by Minister to uphold the law
- Fines up to 500,000 yen (\$5,000) assessed on failure to observe Administrative Orders

Others

- Prohibition of mail transmission utilizing any program that generates random fictitious e-mail addresses
- Telecommunications carriers are authorized not to provide volume e-mail transmission services if the e-mails include random fictitious addresses.

RFID Privacy Protection Guideline (June 2004)

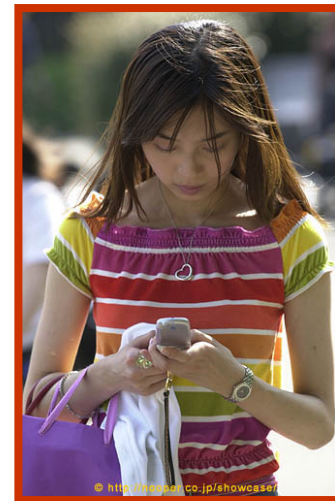
1. Objective	RFID tag's smooth acceptance in society, respect consumer's right
2. Range	Rules that business operators should observe when a RFID tag remains on the purchased items
3. Existence and Appearance	Notify consumers of RFID tag's existence with the commercial items (place, recorded information)
4. Consumer's choice	Notify that consumers are able to choose their personal information not to be read (entirely or partially).
5. Information provision as society's benefit	Explain the society's benefit and harm caused by consumers refusal to provide information
6. Use of information data base	Privacy protection law will be enforced in case that it is easy to put the information in RFID tag into database and specify particular individuals,
7. Restriction of information collection and use	Try to notify the person the objective of information usage when a consumer's personal information is recorded into RFID tag. When it is used for other than primary objectives, try to gain agreement of the consumer.
8. Secure the information accuracy	In case of recording personal information into RFID tag, keep the information (1) accurate with no obsolescence, (2) revise the information with request from the consumer, and (3) prevent falsification of information.
9. Establish information manager	Establishment of information manager is necessary for proper information management.
10. Provide information and explanation to consumers	Business operators and government agencies provide information and explanation to consumers to gain fair understanding.

Mobile “etiquette” in Japan

- A time and a place?
- Industry self-regulation
 - Restaurants
 - JR Railway
 - Shinkansen
- Individuals
 - Awareness
 - Etiquette



Discussion



Discussion Points

- How does the Japanese experience with mobile phones differ from your (your country's) experience?
- What do you see as the main factors of Japan's success?
- What can other countries learn from this experience? Are the same success factors applicable in other countries?

