CIO IN INNOVATION FOR BUSINESS STRATEGY

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PROFILE: Graduated from the Graduate School of Keio University. Worked for UN Development Program as a project planner, stationed at the New York headquarters and in Pakistan. Japanese representative and senior researcher in the Center of Japanese Economy and Business at Columbia University, Secretary to Japanese Minister of Labor, Professor, Bunkyo University, Visiting Professor, Waseda University. Member of various advisory committees of government including Prime Minister Office, Ministry of Internal Affairs and Communications, etc. **President, International Academy of CIO ,Chair ,UNESCO UNITWIN Program on Disaster Management and Director, APEC e-government Research Center ; Member of Mobile Business Forum under MIC and Adviser to ITU Secretary General**

LITERARY WORK: "CIO Theory " (University of Tokyo Press)," Info-comm. Industries in Japan"(Kodan-sha) ,"Japan's 50 Information System Leaders" (Soft Bank Creative), " Challenge of NTT "(Kodan-sha) " **Mobile Internet** "(PHP) and others

a. roles, skill sets, and responsibilities of CIO

Changing roles of CIOs

emerging 4th generation of CIO in the 2010s

In the 1980s – 1st generation of CIOs are chief information officers who manage information systems and information distribution in offices.

In the 1990s -2nd Generation of CIOs are information officers who plan and implement information strategy as part of management strategies.

In the 2000s – 3rd Generation of CIOs are innovative chief CIO who focus on "management" and "strategy" as a mediator between ICT and Management departments.

The CIOs is "the Chief Information Officers whose main activities are to plan and implement management and business strategies on ICT."
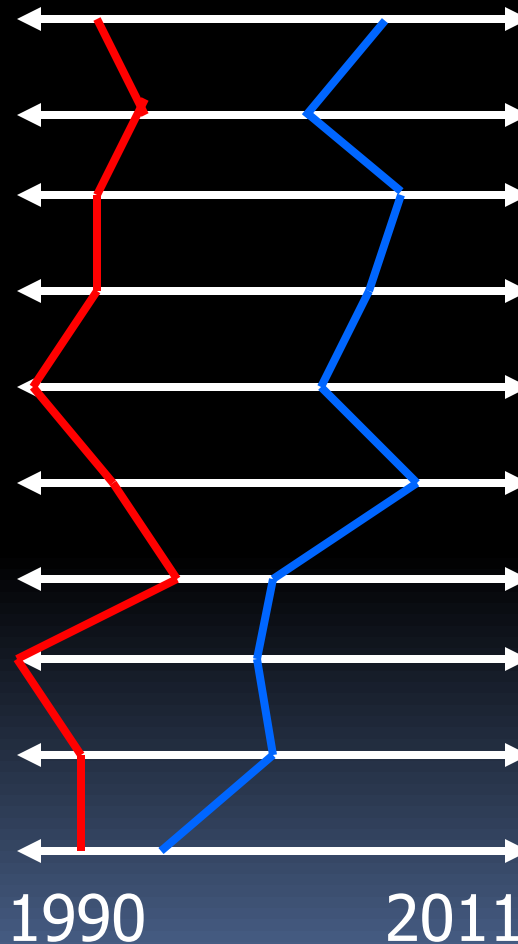
7 management fields and the role of CIOs

- ☐ **Strategic Management:** promoting e-Business reform and business innovation in every sector
- ☐ **Risk Management:** Reducing the damage of disasters with BCP and cyber security
- ☐ **Knowledge Management:** sharing knowledge and intellectual property Right (IPR)
- ☐ **E-governance Management:** establishing excellent governance of organization and compliance
- ☐ **Environmental Management:** promoting Green IT and solution for the global warning
- ☐ Management for Innovation- best practices for Service / Socio Innovation
- ☐ Project Management-Leadership for project Plan, formulation and implementation with cost efficiency and high productivity

CIO Responsibilities

- National ICT Master/ Strategic Plan
- National e-Government Plan
- Organizational ICT Master/Strategic Plan
- Government Vision and Policy
- Public Awareness
- Develop e-Government strategic plan
- Coordinate e-Gov Strategy
- Push Strategy in ICT Plan
- Involvement in ICT Master Plan
- Involvement in ICT Policy Plan
- Determine e-Government Policies
- Build up ICT Operational Staff/Team
- Determine Regulatory Structures
- Involve in ICT Problem Solving
- Enhance Internal Administration
- Promote Transparent Decision-Making
- Foster e-Democracy

- Political Leadership
- Build up Leadership
- Government information infrastructure
- Develop ICT Operation Center
- Share ICT Resource Planning
- Government Information and Network Integration
- Facilitate Social Inclusion
- Maturity of Website Development
- ICT Monitoring and Evaluation Plan
- ICT Integration management
- ICT budget management
- Allocate ICT Financial Resource
- ICT Outsourcing technique

CIO Responsibilities (Continued)

- Enterprize Archtecture
- e-Government Service Kiosks
- On-line Services
- Seamless: Total integration of e-functions and services across administrative and departmental boundaries.
- Enhanced : Content and Information is updated with greater regularity
- Emerging: A government web presence is established through a few independent official sites. Information is limited, basic and static.
- Interactive : Users can download forms, contact officials, and make
- Transactional: Users can actually pay for services or conduct financial transactions online.
- Deliver Programs and Services
- Enhance e-Services more accessible
- Enhance Interface with Citizens
- Enhance Internet Access
- Develop Services for Citizens Choices

- Departmental intranet
- Develop Citizen Responsiveness
- Info security
  - Cyber Security
  - Cyber Laws
- Enterprise Architecture
- CIO/ICT unit
- CIO formal appointment
- GCIO Roles and Responsibilities
- Use Computer by yourself
- e-Government Capacity Building Program
- ICT training unit and management
- Self-interest in ICT
- ICT career path promotion
- Contribute to ICT Empowerment
- Being trained as a Specialist in ICT

4 *I* : *New C**I**O*

Information

Innovation

Intelligence

Investment

b. linkages and interrelationships among CTO, CEO, CIO, and CFO functions

Expanded Roles of CIO

CEO

CIO
(Chief Information Officer)

CTO
(Chief Technology Officer)
BPR, Hardware, Software

CRO
(Chief Risk Officer)
Risk Management

CFO
(Chief Finance Officer)
Finance and budgeting

CKO
(Chief Knowledge Officer)
Knowledge Management

Core Competences for CIO to work with CFO/CTO/CKO

CTO／CRO／CFO／CKO
Core Competences for Total ICT Strategy

IT services / EA / CRM/ e-Government / e-Municipality

Security / MOT/ R&D

CFO
Procurement Management
System Architecture
IT Investment

CTO
Management Strategy
Intellectual Property
MOT / R&D

Core Competences

CKO
Policy
decision-making process
Knowledge Management

CRO
Project Management
Risk Management

Leadership / Communication / Global Standard / knowledge Management

CIO Core Competencies

– What are the quality and condition to be CIO

- Leadership and active role of decision making
- Process/Change Management
- Information Resources Strategy and Planning
- ICT Performance Assessment: Models and Methods
- Project/Program Management
- Capital Planning and Investment Assessment
- Acquisition/Integration
- E-Government / e-Business /eCommerce
- ICT security/information assurance
- Quality Assurance
- Enterprise Architecture
- Services Oriented Architecture
- Technical knowledge
- Web Service Technology/ Social media
- Presentation Tools and performance as well as ability
- Policy planning and Strategy

C. capacity building

—human resource development

Global CIO University Network

Practices and Lessons Learned from CIO Course at Waseda University
Cooperation with APEC to Establish Global CIO Education Network

1. **CIO program for global HumanResource Development plan**

   - The importance and priority of high level IT manpowers in
   - **Need of developing CIO activities in e- government**
   - The idea of " e- community" and strengthening the role of CIO mechanism forged by government and private sectors
   - **Cooperation with APEC to produce the CIO with world class standard**
   - Collaboration among government, business and academia to establish the graduate level curriculum for CIO training

Goal of CIO Course

➢ **Targeting the public in developing professional education of ICT Business / technology**

➢ **Cultivating CIO and IT management resources in e-government and institutions**

➢ **Training specialists in CTO, CKO and risk management (CRO) as expanded role of CIO**

➢ **Establishing effective collaboration among business, government and academia**

➢ **Cooperating to educate and cultivate CIO talents in the global perspective**

APEC CIO training model: training schemes

Basic	Standard	Advanced
foundation level	standard modules of IM and IT implementation in the applied environment	focus on enterprise architecture, solutions and standards
➢Awareness of GCIO ➢GCIO Roles and Responsibilities ➢Process / Change Management ➢Policy and Organization ➢Information resource strategy and Planning	➢e-Services Development ➢IS Management ➢IT Management ➢Government Information and Network Integration ➢GCIO Networking and Institutionalization ➢ICT Project Management	➢Enterprise Architecture and Solution ➢Web-service Technology ➢Customer Relationship Management ➢System Ergonomics ➢IPR Management ➢CIO University

d. knowledge management and ICT Investment

Four Modes of Knowledge Conversion
(Nonaka and Takeuchi 1995)

Tacit Knowledge

Dialogue

Ba

Socialization	Externalization
Sympathized Knowledge	Conceptual Knowledge
Operational Knowledge	Systemic Knowledge
Internalization	Combination

Linking Explicit Knowledge

Learning by Doing

Explicit Knowledge

f. E-Government consumer/citizen information services

(e-Government/e-Municipality/ Electronic Commerce)

Scheme for e-Government Policies in Japan

Promoting Use of IT in the whole Society

Headquarters for the Promotion of Advanced Information and Communication Society

IT Strategic Headquarters (ITHQ) (Chair: Prime minister)

(Established based on IT Basic Law)

e-Japan Strategy (ITHQ, Jan. 2001)

e-Japan Strategy II (ITHQ, Jul 2003)

e-Japan Strategy II Acceleration Package (ITHQ Decision, Feb. 200)

IT Policy Package 2005 (ITHQ Decision, Feb. 2005)

New IT Reform Strategy (ITHQ Decision, Jan. 2006)

Strategy IT Policy Package

IT Policy Package Roadmap (ITHQ Decision,Aug.2008)

i-Japan Strategy 2015 (ITHQ Decision, July. 2009)

For New IT Strategy

"Basic Policy for the Promotion of Advanced Information and Communication Society" (Adopted Feb. 1995; revised Nov.1998)

"IT Basic Law" Basic Law on the Formation of an Advanced Information and Telecommunications Network Society (Enacted Dec. 2000; effective Jan. 2001)

(Formulated based on IT Basic Law) 6

e-Japan Priority Policy Program (ITHQ Decision, Mar. 2001)

e-Japan Priority Policy Program 2002 2002(ITHQ Decision, Jun. 2002)

e-Japan Priority Policy Program 2003 2003(ITHQ Decision, Aug. 2003)

e-Japan Priority Policy Program 2004 (ITHQ Decision, Jun. 2004)

Priority Policy Program 2006 (ITHQ Decision, Jul. 2006)

Priority Policy Program 2007 (ITHQ Decision, Jul. 2007)

Priority Policy Program 2008 (ITHQ Decision, Aug. 2008)

New Strategy for digital new age -Three Years Urgent plan- (ITHQ Decision, Apr. 2009)
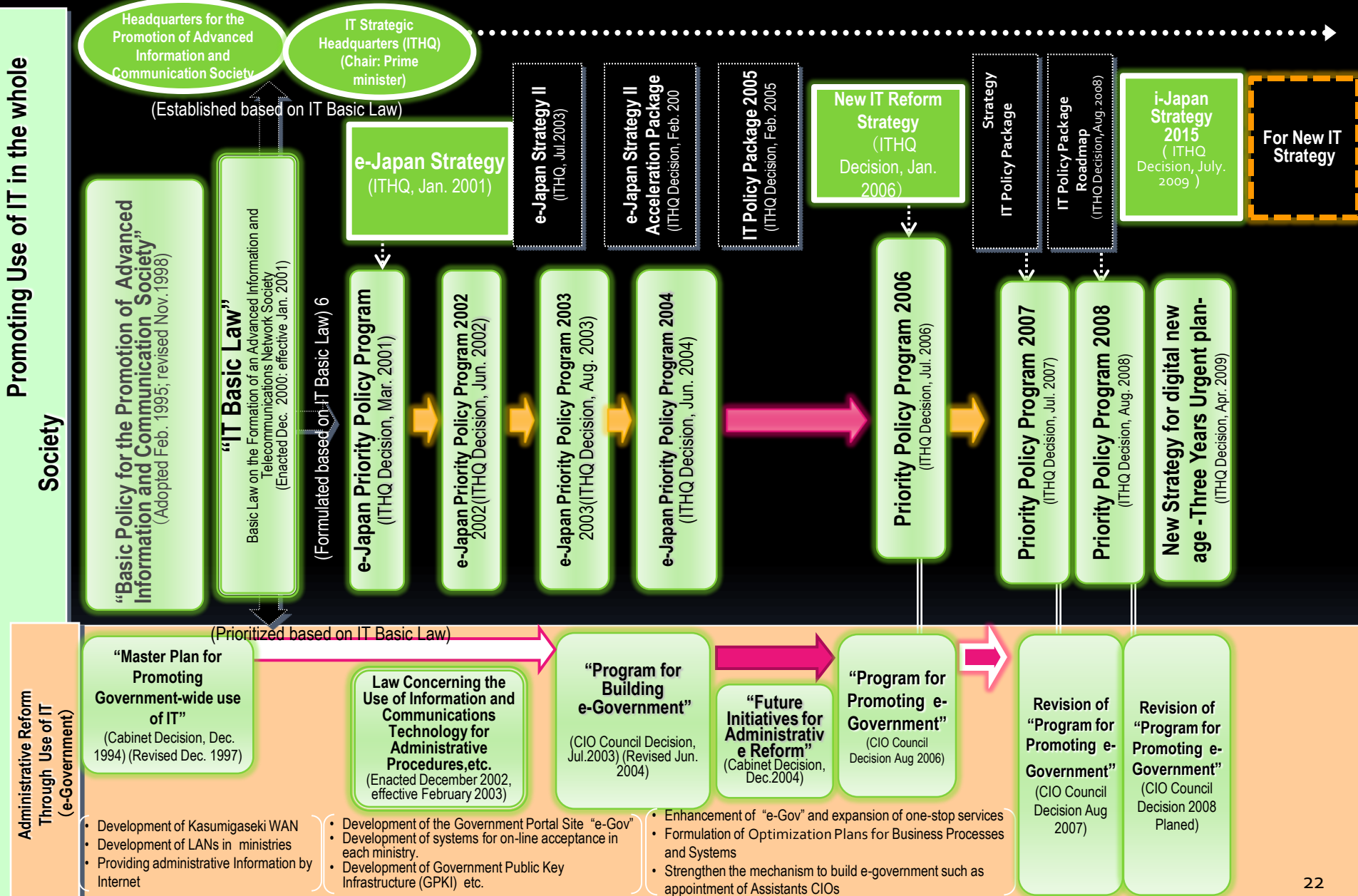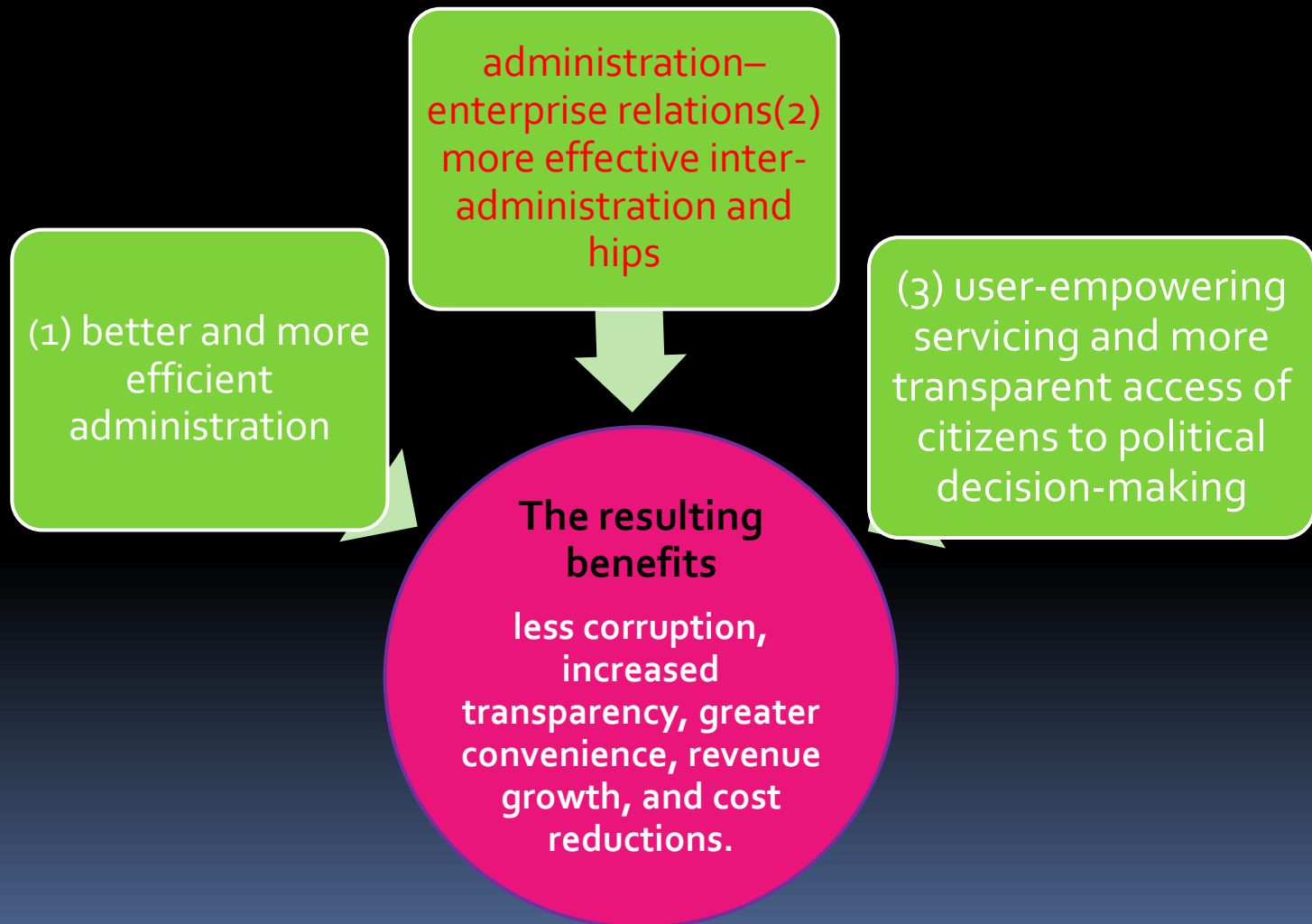
Administrative Reform Through Use of IT (e-Government)

(Prioritized based on IT Basic Law)

"Master Plan for Promoting Government-wide use of IT" (Cabinet Decision, Dec. 1994) (Revised Dec. 1997)

Law Concerning the Use of Information and Communications Technology for Administrative Procedures,etc. (Enacted December 2002, effective February 2003)

"Program for Building e-Government" (CIO Council Decision, Jul.2003) (Revised Jun. 2004)

"Future Initiatives for Administrative Reform" (Cabinet Decision, Dec.2004)

"Program for Promoting e-Government" (CIO Council Decision Aug 2006)

Revision of "Program for Promoting e-Government" (CIO Council Decision Aug 2007)

Revision of "Program for Promoting e-Government" (CIO Council Decision 2008 Planed)

- Development of Kasumigaseki WAN
- Development of LANs in ministries
- Providing administrative Information by Internet

- Development of the Government Portal Site "e-Gov"
- Development of systems for on-line acceptance in each ministry.
- Development of Government Public Key Infrastructure (GPKI) etc.

- Enhancement of "e-Gov" and expansion of one-stop services
- Formulation of Optimization Plans for Business Processes and Systems
- Strengthen the mechanism to build e-government such as appointment of Assistants CIOs

e-Government is aimed at promoting:

administration–enterprise relations(2) more effective inter-administration and hips

(1) better and more efficient administration

(3) user-empowering servicing and more transparent access of citizens to political decision-making

The resulting benefits

less corruption, increased transparency, greater convenience, revenue growth, and cost reductions.

One Stop Service

e-government is guided by three principles:

- Citizen-centered,
- Results-oriented,
- Market-based
- Strategic vision

➢ One-stop service is
- to meet the needs of citizens and business transactions,
- to enhance service accessibility and usability,
- decrease service delivery delays and costs.
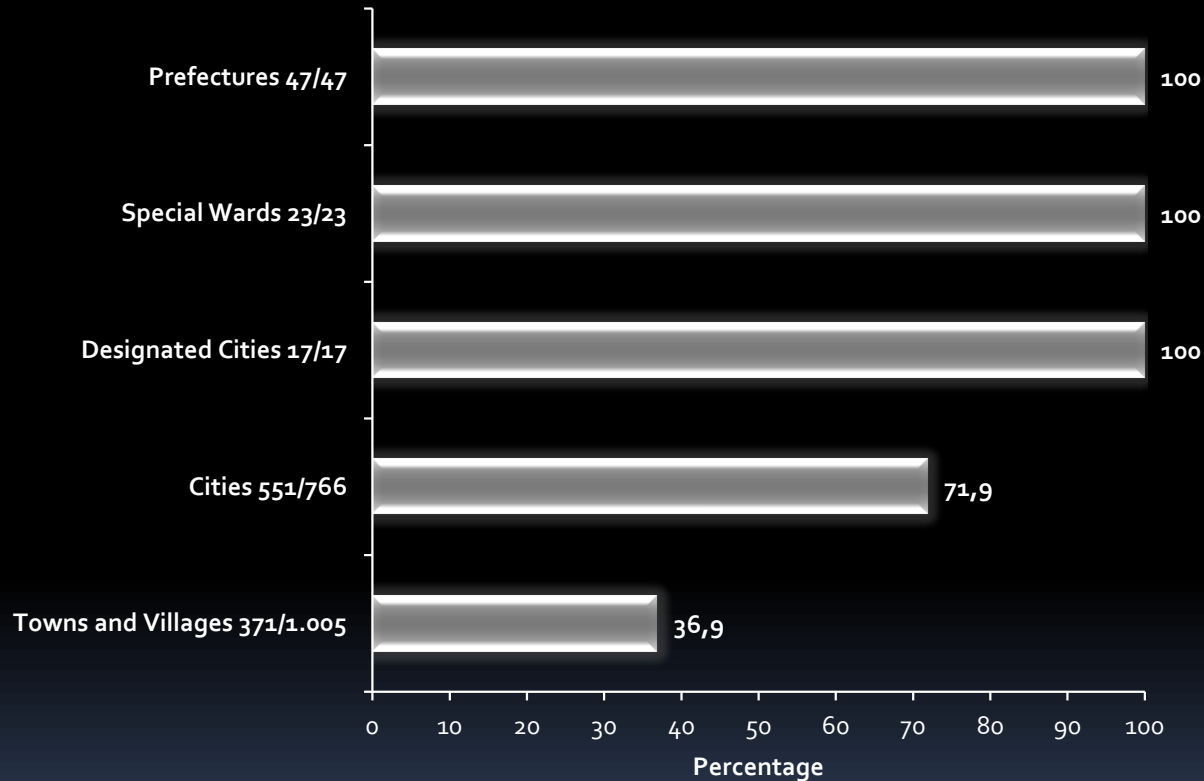- provide seamless connectivity

e-Participation

- ➢ governments increase interaction with citizens through improving
- ▪ the quality of content of information,
- ▪ the diversity of information,
- ▪ the ease of accessibility of information on
- ▪ government portals,
- ▪ applications for disseminating such information by citizen initiative (e-voting, online polling, online surveys and blogs)
- ▪ Improving e-Democracy with transparency of gov.

Mobile content and applications

- **Develop and integrate** information resources, improve information gathering channels, and increase timely, relevant and contextualized content supply

- **Expand MBB** development impact by targeting the broader range of citizens with diverse information needs

Mobile Commerce → **Mobile Government** → **Mobile Agriculture** → **Mobile Education** → **Mobile Health** → **Mobile Disaster reduction**
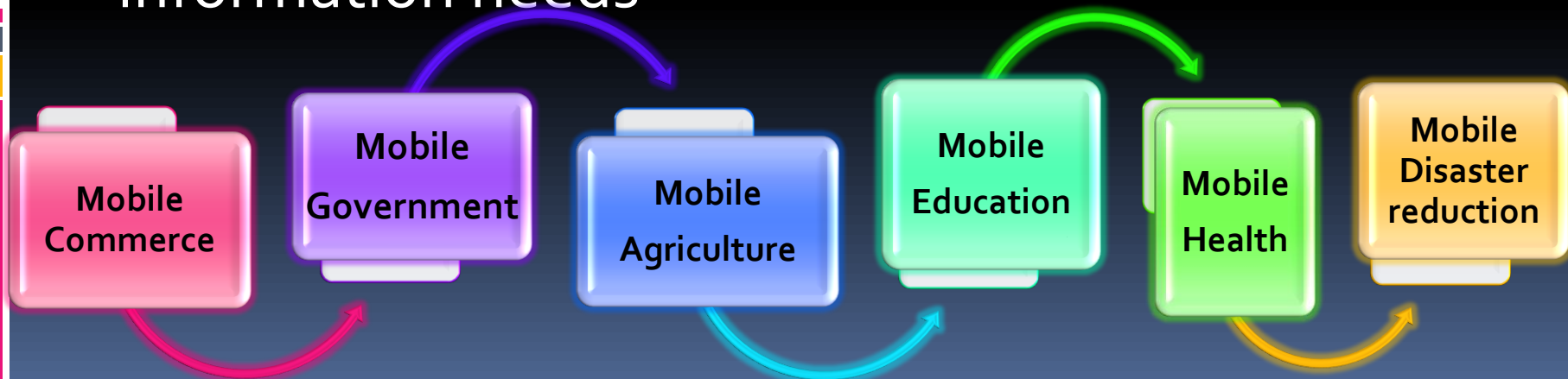
Japanese mobile websites

Category	Percentage
Prefectures 47/47	100
Special Wards 23/23	100
Designated Cities 17/17	100
Cities 551/766	71,9
Towns and Villages 371/1.005	36,9

mobile portal of Nagaoka City

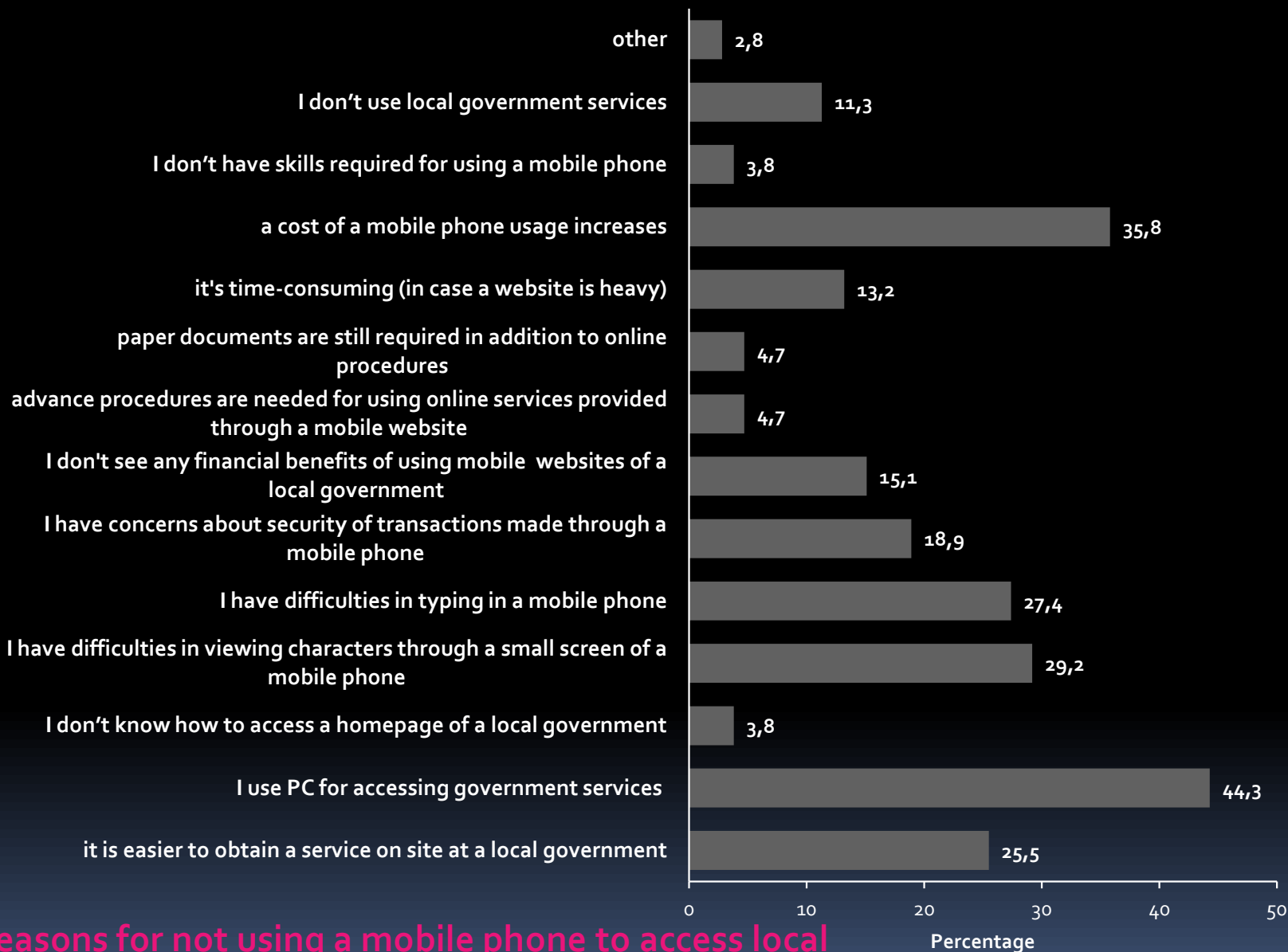|	
Electronic applications	Administrative procedures, registration for events, lectures etc.
Reservation of public facilities	Checking the availability of facilities (Library, sport gyms, clubs) for reservation
Registration of participants for events	Enrollment of participants for different kind of local events
Fire-protection	Information and news concerning fire protection
Safety information	Information about disaster casualties
The list of shelters	Information about location of shelters in different areas
Emergent medical help/check up	Information of hospitals working on holidays and at night
Library services	Library catalog search, book requests, books availability check
Registration for mail magazine	Information about Nagaoka city, yellow pages
Re-invention of the town	Historical and cultural information about the city
List of Consultation offices	Information of various kinds of consultation services offered in the city
List of institutions and organizations	Contact and access information of hospitals, cafes, shops etc.
Parking Information	Information about parking near the station
Useful links	Useful links to other mobile websites
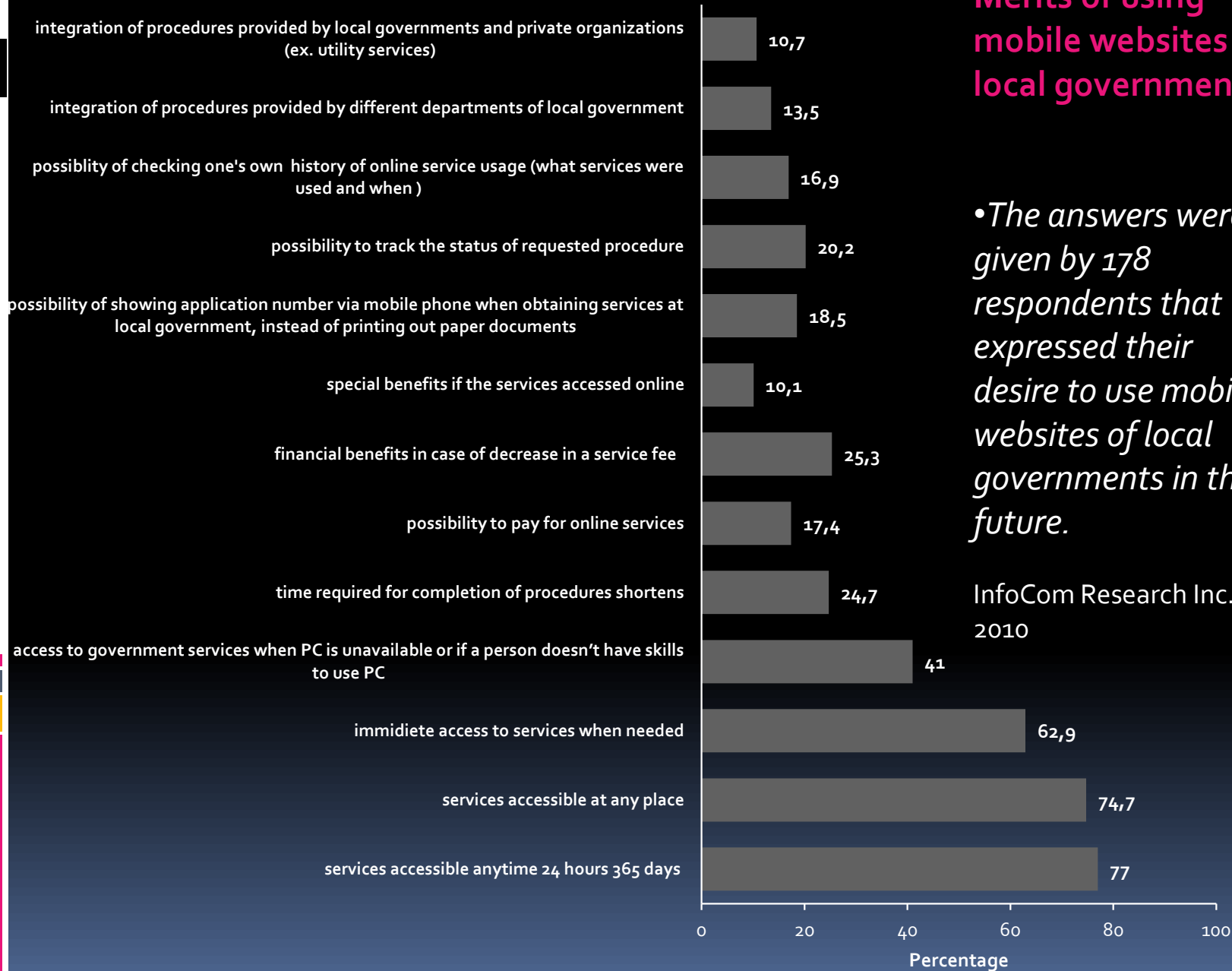
Merits of using mobile websites of local governments

- *The answers were given by 178 respondents that expressed their desire to use mobile websites of local governments in the future.*

InfoCom Research Inc., 2010

Chart data (Percentage):

Category	Percentage
integration of procedures provided by local governments and private organizations (ex. utility services)	10,7
integration of procedures provided by different departments of local government	13,5
possiblity of checking one's own history of online service usage (what services were used and when)	16,9
possibility to track the status of requested procedure	20,2
possibility of showing application number via mobile phone when obtaining services at local government, instead of printing out paper documents	18,5
special benefits if the services accessed online	10,1
financial benefits in case of decrease in a service fee	25,3
possibility to pay for online services	17,4
time required for completion of procedures shortens	24,7
access to government services when PC is unavailable or if a person doesn't have skills to use PC	41
immidiete access to services when needed	62,9
services accessible at any place	74,7
services accessible anytime 24 hours 365 days	77

Reasons for not using a mobile phone to access local government services
InfoCom Research Inc., 2010

g. Crisis Management issues

- CIO for Crisis, Disaster and Environment management

Disaster Recovery & Business Continuity Planning (BCP)

- Increasing reliance on Government on ICT to provide services suggests that major technological breakdowns as well as malicious electronic attacks can severely interfere with the smooth operation of government and delivery of services to citizens.

- Integration between e-Gov. and Disaster Reduction by ICT with BCP under emergency and public preparedness as well as Recovery

What has happened?
3.11 Earthquake Japan

Issues

- BCP（Business Continuity Planning） is one of the indispensable solutions to protect the business and government from the damage of disasters.

- Moreover, the main discourse was brought together by thinking about the importance of CIO （Chief Information Officer） that plays an important role of BCP.

Cycle of Disaster Management
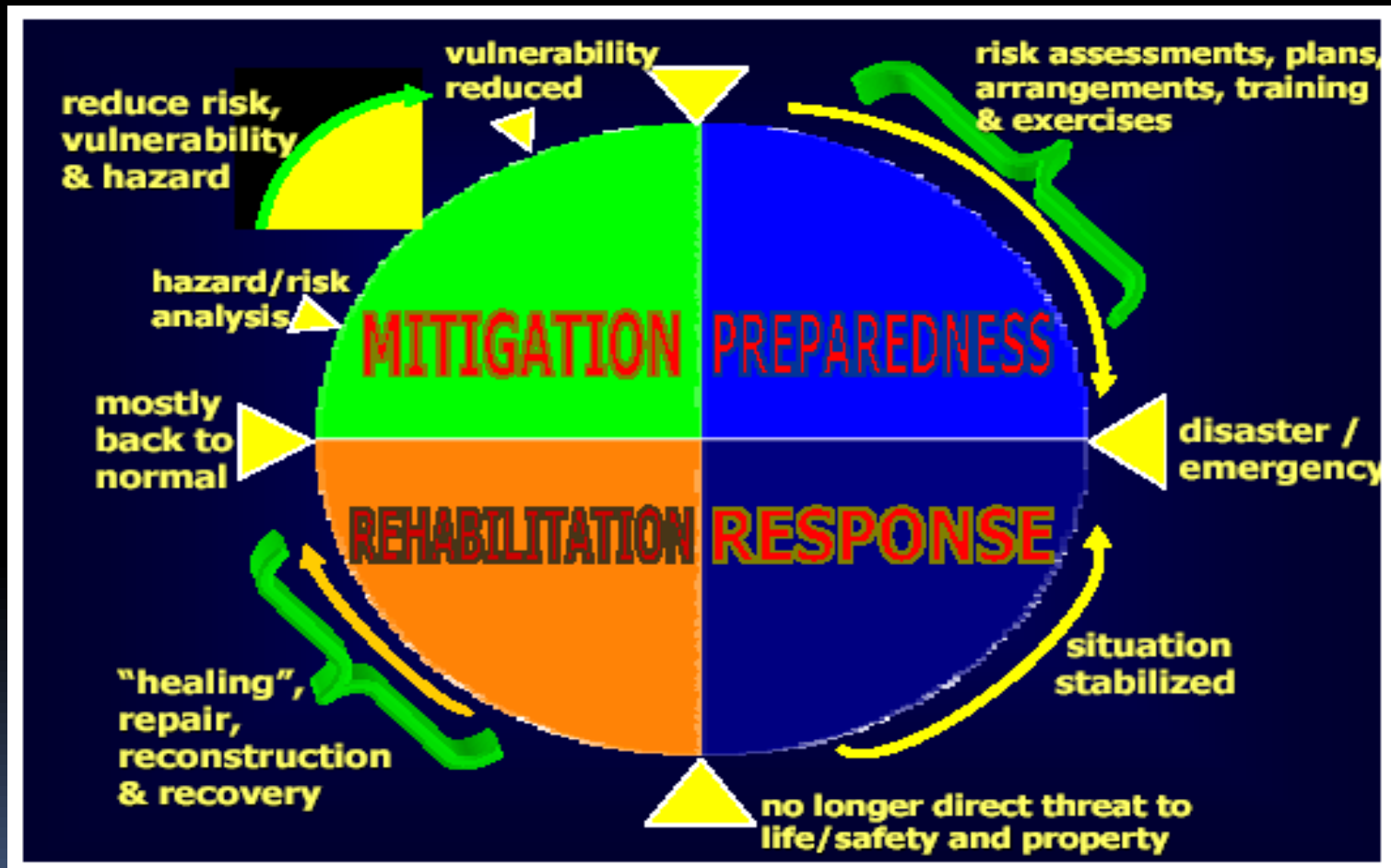
Disaster Prevention CIO

- In US, CIOs tends to focus on the role of security and risk management. This trend is revealed with the large damage by the hurricane (2005), 9.11 terrorist attacks (2001), and the Y2K.

- Some private companies began to put emphasis on risk management for urgent occasions. They establish BCP and risk management planning.

- Establishment of communication system and back-up system become the important role of CIO. It is said to that the presence of CIO divides the light and darkness of the business restoration after the "9.11" in US.

Environment and Climate ICT (Green ICT)

➢ reducing IT services' carbon footprints by

▪ asset disposal: replacing computers and printers every five years instead of three and removing unused ICT equipment and improving efficiency.

▪ servers' virtualization, cloud-computing policy

▪ emissions tracking applications to enhance planning and decision-making for meaningful climate action and savings.

www.uniglobalunion.org

Thank you !!

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