

## Can Technology Promote Innovation in Japanese Government?

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## Roles of Information Technology

- 1. Strengthen ties between Citizen and Government agencies
  - G ->C Distributing information
  - G<->C Business transactions (licenses, tax filings)
  - G<->C Rulemaking
- 2. Achieve productivity (more efficiency)
  - Data/information processing (personnel, documents)
  - Financial processing (accounting process, payrolls)
- 3. Enhance "innovativity" (a capability of innovation)
  - Individual (information collection, stimulus to knowledge)
  - Organizational (information/knowledge management)

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## What is e-government?

- New government works leveraging IT
  - Interactions through websites between G&C
  - Effective & efficient performance in pursuing policy programs
  - More innovative policymaking/rulemaking
    - E-rulemaking plus individual/organizational "innovativity"
- Bureaucracy needs to be transformed?

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## An initial survey on government officials' use of IT in Japan

- Targeted officials: total 6,469
  - Working at two ministries' central offices; both ministries are leading e-gov program in Japan.
  - Ministry of Internal Affairs and Communications (MIC) 2,989
  - Ministry of Economy, Trade and Industry (METI) 3,480
- Trough Q&A website:
  - Period: 1/25/2005-2/8/2005 (1/26-2/8 in case of METI)
  - Anonymous
- Responses: total 1,365 (21.1%)
  - MIC: 589 (19.7%)
    - mic = MIC excluding Statistics Bureau: 414
  - METI: 776 (22.3%)

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## Features of respondents(1)

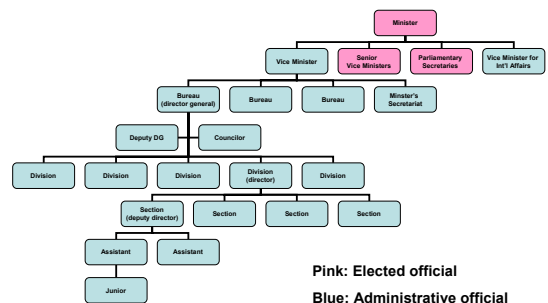
### Current positions

	mic		METI		Total	
Director General <sup>1</sup>	2	0.5	12	1.5	16	1.2
Director	61	14.7	76	9.8	159	11.6
Deputy Director	102	24.6	233	30.0	363	26.6
Assistant	134	32.4	298	38.4	489	35.8
Junior	115	27.8	157	20.2	338	24.8
Total	414	100.0	776	100.0	1365	100.0

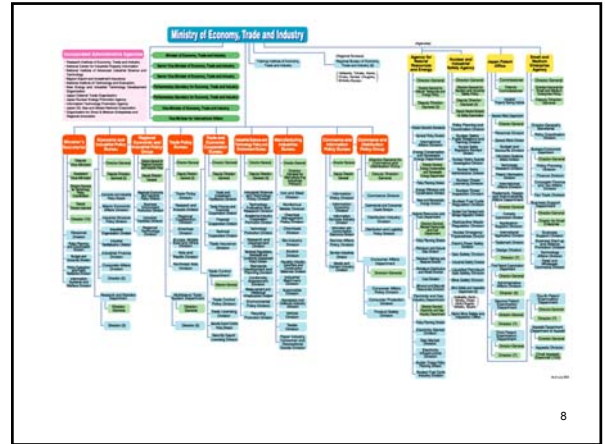
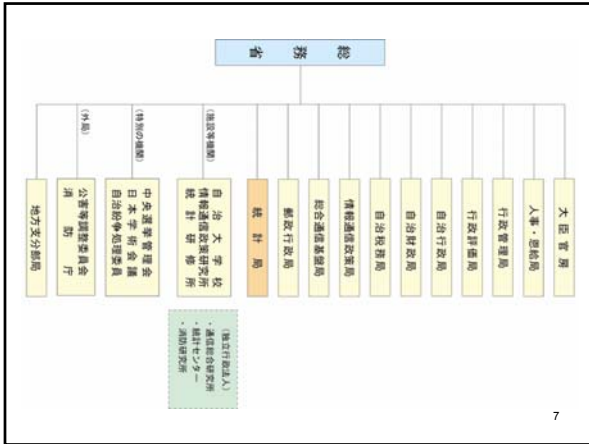
1 includes Deputy DG, Councilor

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## Government hierarchy in Japan



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### Features of Respondents(2)

#### Types of work

(Check all that apply)	Total	%	mic	%	METI	%
Planning/coordination	586	42.9	203	49.0	326	42.0
Research/analysis	256	18.8	67	16.2	139	17.9
Implementing programs (Ex: law enforcement, public relations, legislative relations, inspection/supervising)	355	26.0	93	22.5	250	32.2
Policy evaluations	51	3.7	28	6.8	21	2.7
Back office business (Ex: personnel, accounting, document management, general affairs, IT operation)	407	29.8	136	32.9	198	25.5
<b>Total</b>	<b>1365</b>	<b>121.2</b>	<b>414</b>	<b>127.4</b>	<b>776</b>	<b>120.3</b>

- ### Categories of IT use
- A: Reading files/information
    - documents, spreadsheets and power point presentations
    - internet websites
    - intranet websites / internal bulletin board for announcement
  - B: Writing / Making files
    - Documents
    - Spreadsheets
    - Power point presentations
    - databases
  - C: Searching information
    - internet websites
    - legal documents
    - official publications by government
    - Books, research papers
    - Mail magazines
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- ### Categories of IT use
- D: E-mail communications
    - Reading
    - Sending
  - E: E-discussion
    - Mailing Groups in the Ministry
    - E-discussion outside of the Government
    - E-discussion within the Ministry
    - E-discussion across Ministries
  - F: Electronic proceedings
    - E-approval of official decisions
      - In Japan, official decision should be approved by jurisdictionally authorized officials from bottom to top (the level of top may differ case by case)
  - E-transactions
  - G: Others
    - e-learning
    - schedule management
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### Examples of collected Data

	a(%)	b (%)	c (%)	PI
<b>(A: Reading)</b>				
documents, spreadsheets and power point presentations	85.0	12.1	2.9	91.0
<b>(E: E-discussion)</b>				
E-discussion within the Ministry	4.0	9.5	86.5	8.8

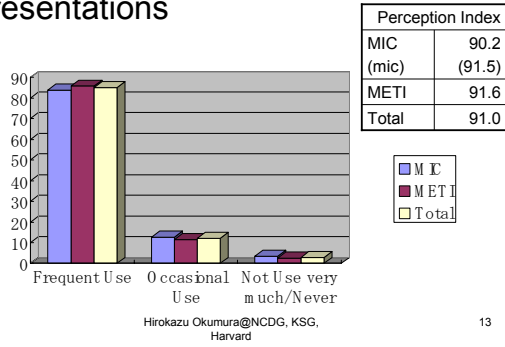
a: Use frequently ; b: Use occasionally ; Not use very much / never

PI=Perception Index (of Utilization) :

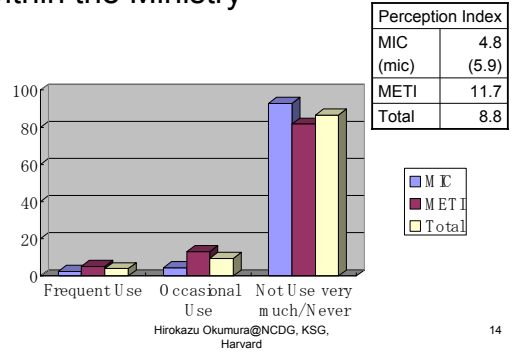
$$PI = a + b \times 0.5 + c \times 0$$

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### (A: Reading) documents, spreadsheets and power point presentations

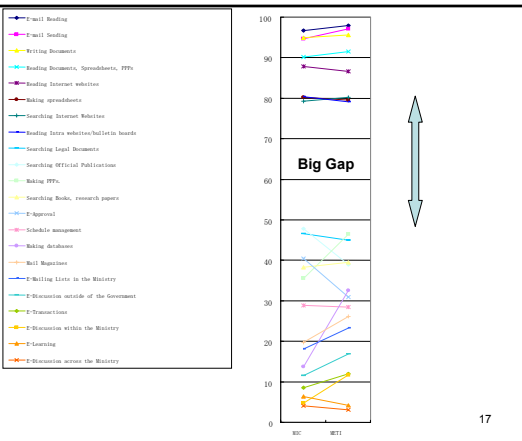


### (E: E-discussion) E-discussion within the Ministry



## Whole picture of Perception Indices by types of IT use

Total 22 usages	High PI group 6		Mid / Low PI group 14	
	(PI: More than roughly 80)	Upper (PI: 60-80) 5	Middle(PI: 20s) 4	Lower (PI: 10s & single digits) 5
		(c: less than 50%)	(c: 60-70%)	(c: more than 80%)
A: Reading 3	documents, spreadsheets and power point presentations (91.0)	internet websites (87.2)	intranet websites / internal bulletin board for announcement (79.7)	
B: Writing / Making files 4	Documents (95.3)	Power point presentations (41.7)	Spreadsheets (79.9)	databases (24.4)
C: Searching information 5	internet websites (79.8)	legal documents (45.7)	official publications by government (42.8)	Mail magazines (23.4)
		Books, research papers (38.0)		
D: E-mail communications 2	Reading (97.4)			
	Sending (96.1)			
E: E-discussion 4			Mailing Groups in the Ministry (21.0)	E-discussion outside of the Government (14.6)
				E-discussion within the Ministry (8.8)
				E-discussion across Ministries (3.8)
F: Electronic proceedings 2		E-approval of official decisions (85.1)		E-transactions (10.5)
G: Others 2			schedule management (28.7)	e-Learning (5.1)



## Findings 1

- Big Gap may indicate "Above 'Big Gap' IT Use" is one that is used in daily routines almost everywhere. Servants take them for granted.
- "Below 'Big Gap' IT Use" may be separated two types of IT use. (hypothesis)
  - 1.It may have the potential to become "Above 'Big Gap' IT Use". However, some institutional barriers may exist.
  - 2.It may NOT have the potential to become "Above 'Big Gap' IT Use".
    - One may be a specific technology which is limited in its use in nature.
    - Another may be a common technology, but individuals may not like to use because of their psychological reasons.

## Findings 2

- Even in different agencies (MIC and METI), we can see the same GAP. ->see slide 17
- It suggests that 'Big Gap' may be out of relation to agencies or organizations.
- However, there are some differences between two agencies in e-approval and other new technologies. -> see slide 17  
->Details are described on slides from 25 to 33 .

## High PI group 8 (PI: > roughly 80)

Total 22 usages	(c: single digits)
A: Reading 3	4.Documents, spreadsheets and power point presentations (91.0)
	5.Internet websites (87.2)
	8.Intranet websites / Internal bulletin board for announcement (79.7)
B: Writing / Making files 4	3.Documents (95.3)
	6.Spreadsheets (79.9)
C: Searching information 5	7.Internet websites (79.8)
D: E-mail communications 2	1.Reading (97.4)
	2.Sending (96.1)

## Mid / Low PI group 14 Upper (PI: 50-35) 5

Total 22 usages	(c: less than 50%)
B: Writing / Making files 4	11.Power point presentations (41.7)
C: Searching information 5	9. Legal documents (45.7)
	10.Official publications by government (42.8)
	12.Books, research papers (39.0)
F: Electronic proceedings 2	13.E-approval of official decisions (35.1)

## Mid / Low PI group 14 Middle (PI: 20s) 4

Total 22 usages	(c: 60-70%)
B: Writing / Making files 4	15.databases (24.4)
C: Searching information 5	16.Mail magazines (23.4)
E: E-discussion 4	17.Mailing Groups in the Ministry (21.0)
G: Others 2	14.Schedule management (28.7)

## Mid / Low PI group 14 Lower (PI: 10s & single digits) 5

Total 22 usages	(c: more than 80%)
E: E-discussion 4	18. E-discussion outside of the Government (14.6)
	20. E-discussion within the Ministry (8.8)
	22. E-discussion across Ministries (3.6)
F: Electronic proceedings 2	19. E-transactions (10.5)
G: Others 2	21. e-Learning (5.1)

## Numbers of tick marks on Beneficial and Unbeneficial

- We asked respondents to tick each one for beneficial and unbeneficial usages of IT.
  - Total Beneficial : 636 46.6%
  - Total Unbeneficial : 503 36.8%
- Most beneficial
  - Reading Internet websites 133 (34)
  - Searching Internet websites 100 (10)
  - Writing documents 69 (18)
- Most unbeneficial
  - E-approval proceedings 12(102)
    - Digits : Numbers who ticked on beneficial
    - Digits in parentheses : Numbers who ticked on unbeneficial

## Comparison by Ministries

### High PI group 8 PI of "mic"<sup>1</sup> vs PI of METI

(PI > roughly 80)	(c: single digits)
A: Reading 3	4.Documents, spreadsheets and power point presentations 91.5 / 91.6 (-0.1) 5.Internet websites 90.5 / 86.6 (3.9)
B: Writing / Making files 4	8.Intranet websites / Internal bulletin board for announcement 78.6 / 78.6 (0.0) 6.Spreadsheets 78.4 / 79.6 (-1.2)
C: Searching information 5	7.Internet websites 84.3 / 80.2 (4.1)
D: E-mail communications 2	1.Reading 97.7 / 97.9 (-0.2) 2.Sending 95.8 / 97.1 (-1.3)

1: "mic" means MIC excluding Statistics Bureau ; respondents are 414 26

## Findings

- Both Ministries<sup>1</sup> use high PI usages mostly at the same level.
- "mic" shows slightly higher PI than METI in both reading & searching Internet websites.
- Why?
  - High PI usages may be routinized in both Ministries.
  - Slightly higher "mic" PI of Internet websites is my BIG QUESTION. Every type of position shows the same pattern.

1: Ministry / Ministries, or mic / METI mean civil servants working at Ministry / Ministries, or mic / METI. 27

### Mid / Low PI group 14 PI of mic<sup>1</sup> vs PI of METI

Upper (PI: 50-35) 5	(c: less than 50%)
B: Writing / Making files 4	11.Power point presentations 42.1 / 46.5 (-4.4)
C: Searching information 5	9. Legal documents 55.2 / 45.0 (10.2) 10.Official publications by government 46.6 / 39.0 (7.6) 12.Books, research papers 40.8 / 39.5 (1.3)
F: Electronic proceedings 2	13.E-approval of official decisions 39.7 / 30.9 (8.8)

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## Findings

### Upper subgroup of Mid/Low PI group

- "mic" PI exceeds METI in *searching information of legal documents and official publications*, and in **E-approval**.
- While, METI PI of *making presentation files* exceeds "mic".
- Why?
  - A "mic" high-level official pushes hard by regularly checking and disclosing internally E-approval results of each bureau.
  - "mic" may need more legal and official documents than METI. METI uses more private information reflecting their mission.
  - METI likes more visual presentations, maybe they like novelty.

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### Mid / Low PI group 14 PI of mic<sup>1</sup> vs PI of METI

Middle (PI: 20s) 4	(c: 60-70%)
B: Writing / Making files 4	15.databases <sup>2</sup> 12.2 / 32.5 (-20.3)
C: Searching information 5	16.Mail magazines 21.1 / 26.2 (-5.1)
E: E-discussion 4	17.Mailing Groups in the Ministry 20.3 / 23.3 (-3)
G: Others 2	14.Schedule management 26.6 / 28.5 (-1.9)

2: Questionnaire was somewhat misleading/confusing for METI respondents, because "NOTES", used in METI, was indicated as an example of database softwares in the questionnaire. "NOTES" is normally used as a tool of e-mail, bulletin board and etc.

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## Findings

Middle subgroup of Mid/Low PI group

- METI PI exceeds slightly “mic” in this subgroup.
- Why?
  - This may reflect both ministries’ cultural differences.
  - METI tends to like more novelty than “mic”.

## Mid / Low PI group 14 PI of mic<sup>1</sup> vs PI of METI

Lower (PI: 10s & single digits) 5	(c: more than 80%)
E: E-discussion 4	18. E-discussion outside of the Government 14.1 / 16.9 (-2.8)
	20. E-discussion within the Ministry 5.9 / 11.7 (-5.8)
	22. E-discussion across Ministries 5.0 / 3.2 (1.8)
F: Electronic proceedings 2	19. E-transactions 8.6 / 12.0 (-3.4)
G: Others 2	21. e-Learning 5.9 / 4.2 (1.7)

## Findings

Lower subgroup of Mid/Low PI group

- METI PI exceeds in E-discussion within the Ministry and slightly outside of Government, and also slightly exceeds in E-transactions.
- “mic” only slightly exceeds E-discussion across Ministries.
- Why?
  - “mic” is somewhat familiar across the agency bulletin board because it provides the system for interagency network called “ Kasumigaseki-WAN ” and it has some coordination role among agencies.
  - METI may have more positive respondents in trying E-discussion both within and outside an agency.

## Comparisons by types of positions

## Features of respondents(1)

Current positions

	mic		METI		Total	
Director General <sup>1</sup>	2	0.5	12	1.5	16	1.2
Director	61	14.7	76	9.8	159	11.6
Deputy Director	102	24.6	233	30.0	363	26.6
Assistant	134	32.4	298	38.4	489	35.8
Junior	115	27.8	157	20.2	338	24.8
Total	414	100.0	776	100.0	1365	100.0

## Reading Files/Information

	Total (PI ranking)	DG/DDG	Director	Deputy D	Assistant	Junior
Collected Num (%)	1365 100	16 1.2	159 11.6	363 26.6	489 35.8	338 24.8
Boot up PC	99.8	100	99.7	99.7	100	99.6
Documents, Spreadsheets and pps	91.0 (4)	81.3 -9.7 5	91.5 0.5 4	89 -2 4	92.5 1.5 4	91.3 0.3 5
Internet websites	87.2 (5)	71.9 -15.3 6	87.1 -0.1 5	87.2 0 5	88.3 1.1 6	86.2 -1 6
Intranet websites /internal bulletin board	79.7 (8)	59.4 -20.3 7	79.6 -0.1 7	78.8 -0.9 7	80.1 0.4 8	81.2 1.5 7

## Findings

- Regardless of positions, from directors to bottom, they read files/information frequently.
- DG/DDG shows lower PIs than other type of positions. Interestingly, they do not read internet web information as often as lower-level positions, and intranet information even less.

## Writing / Making Files

	Total (PI ranking)	DG/DDG	Director	Deputy D	Assistant	Junior
Collected Num (%)	1365 100	16 1.2	159 11.6	363 26.6	489 35.8	338 24.8
Boot up PC	99.8	100	99.7	99.7	100	99.6
Documents (3)	95.3 -10.9 2	84.4 -10.9 2	92.5 -2.8 3	96 0.7 2	96.5 1.2 3	94.7 -0.6 3
Spreadsheets (6)	79.9 -45.5 12	34.4 -45.5 10	48.4 -31.5 10	72 -7.9 8	89.5 9.6 5	91.6 11.7 4
Power Point presentations (11)	41.7 -16.7 13	25 -16.7 13	37.4 -4.3 12	37.3 -4.4 11	46.1 4.4 10	42.9 1.2 10
databases (15)	24.4 -11.9 17	12.5 -11.9 17	13.5 -10.9 18	19.3 -5.1 16	27.8 3.4 15	30.8 6.4 15

## Findings

- Documents>Spreadsheets>Presentations>databases and DG/DDG>D>DD>Assistant>Junior are somewhat correlated.
- Writing Documents are used often on every level.
- Writing/Making spreadsheets and databases are the work of Junior and Assistant.
- Writing/Making Presentations are not as clear, but Assistants uses them a little more.
- DG/DDG do not use those technologies so often, maybe they are waiting for written/made files from others.

## Searching Information

	Total (PI ranking)	DG/DDG	Director	Deputy D	Assistant	Junior
Collected Num (%)	1365 100	16 1.2	159 11.6	363 26.6	489 35.8	338 24.8
Boot up PC	99.8	100	99.7	99.7	100	99.6
Internet Websites (7)	79.8 4.6 3	84.4 4.6 3	84.9 5.1 6	78.8 -1 6	81.4 1.6 7	75.9 -3.9 8
Legal Documents (9)	45.7 -23.8 14	21.9 -23.8 14	35.5 -10.2 13	45.6 -0.1 9	49 3.3 9	46.9 1.2 9
Official Publications (10)	42.8 7.2 9	50 7.2 9	49.7 6.9 10	41.9 -0.9 10	44.8 2 11	37.4 -5.4 12
Books, research papers (12)	39.0 46.9 7.9 10	46.9 7.9 10	46.2 7.2 11	36.5 -2.5 12	38.1 -0.9 12	39.1 0.1 11
Mail Magazines (16)	23.4 -1.5 15	21.9 -1.5 15	31.8 8.4 14	21.6 -1.8 15	23.3 -0.1 16	21.6 -1.8 17

## Findings

- DG/DDG and D are more active in searching information, except mail magazines for DG/DDG. You may guess that they are eager to get more information for their responsibilities of decision making as chief of bureau or division.
- They do not need to search legal document information perhaps because 1) they know them well and 2) they can get them from their assistants easily.

## E-mail communication

	Total (PI ranking)	DG/DDG	Director	Deputy D	Assistant	Junior
Collected Num (%)	1365 100	16 1.2	159 11.6	363 26.6	489 35.8	338 24.8
boot up PC	99.8	100	99.7	99.7	100	99.6
reading (1)	97.4 -6.8 1	90.6 -6.8 1	96.9 -0.5 1	97 -0.4 1	98.6 1.2 1	96.7 -0.7 1
sending (2)	96.1 -14.8 4	81.3 -14.8 4	95 -1.1 2	94.6 -1.5 3	97.9 1.8 2	96.3 0.2 2

## Findings

- DG/DDG are comparatively silent through this communication channel. They read, while slightly lower than other levels, e-mail, but do not send as often.
- Perhaps they prefer traditional communication.

## E-discussion

	Total (PI ranking)	DG/DDG	Director	Deputy D	Assistant	Junior
Collected Num (%)	1365 100	16 1.2	159 11.6	363 26.6	489 35.8	338 24.8
Boot up PC	99.8	100	99.7	99.7	100	99.6
Mailing Groups in The Ministry (17)	21.0 15.6	-5.4 16	-2.4 17	-1.9 17	0.1 17	3.4 16
E-discussion outside of the Government (18)	14.6 6.3	-8.3 19	4.6 16	-0.7 18	0.5 18	-1.7 18
E-discussion within the Ministry (20)	8.8 3.1	-5.7 20	-0.3 20	-0.1 19	-1.4 20	2.4 20
E-discussion across Ministries (22)	3.6 0	-3.6 22	-1.4 22	-1.7 22	0.6 21	1.6 22

## Findings

- E-discussion is a very quiet category compared to other categories of IT use.
- However, mailing lists in the Ministry shows highest PI in this category because this is easy to use. E-discussion needs to be allowed by IT system office in the Ministry.
- Director participates in E-discussion outside little more than other levels. They might feel free in this participation or want to get other views outside of the Government.
- Juniors seem to use Mailing lists in the Ministry. Are they just exchanging some information?

## Electronic proceedings

	Total (PI ranking)	DG/DDG	Director	Deputy D	Assistant	Junior
Collected Num (%)	1365 100	16 1.2	159 11.6	363 26.6	489 35.8	338 24.8
Boot up PC	99.8	100	99.7	99.7	100	99.6
E-approval (13)	35.1 56.3 21.2 8	33.3 53.5 18.4 8	-1.8 -4.3 13	30.8 -1.7 13	33.4 -1.7 13	13 13
E-transactions (19)	10.5 9.4	-1.1 18	12.6 2.1	7.9 -2.6	10.6 0.1	12.3 1.8

## Findings

- It is very interesting that DG/DDG and D clearly use E-approval more than other lower levels. But, we have to be aware that respondents of DG/DDG levels are very small in number.
- Assistants may not use E-approval as often than others. They may be too busy in doing their routines/procedures?

## Others

	Total (PI ranking)	DG/DDG	Director	Deputy D	Assistant	Junior
Collected Num (%)	1365 100	16 1.2	159 11.6	363 26.6	489 35.8	338 24.8
Boot up PC	99.8	100	99.7	99.7	100	99.6
Schedule Management (14)	28.7 46.9 18.2 11	25.5 -3.2 15	24.9 -3.8 14	29.7 1 14	32.1 3.4 14	32.1 3.4 14
E-Learning (21)	5.1 3.1	-2 21	-1.3 21	-0.8 21	-1.2 22	3.5 21

## Findings

- DG/DDG's high PI in Schedule management may be understood that, perhaps, their secretaries may manage his/her boss's schedule and the schedule may be shared with a boss, that is DG/DDG.
- Both Schedule management and e-learning are used slightly more often by Juniors.

## Comparisons by types of work

## Features of Respondents(2) by types of work

(Check all that apply)	mic	METI		Total	
Planning/coordination	2	49	32	42	42
Research/analysis	0	16	19	17	18
Implementing programs (Ex: law enforcement, public relations, legislative relations, inspection/supervising)	7	.2	9	.9	6
Policy evaluations	9	22	25	32	35
Back office business (Ex: personnel, accounting, document management, general affairs, IT operation)	3	.5	0	.2	5
	2	6.8	2	2	3
	8		21	7	51
	136	32	19	25	40
		.9	8	.5	7
	4	127.	77	120.	13
Total	1	4	8	3	13

## Ref. Table of Abbreviations

Planning/coordination	P/C
Research/analysis	R/A
Implementing programs (Ex: law enforcement, public relations, legislative relations, inspection/supervising)	IP
Policy evaluations	PA
Back office business (Ex: personnel, accounting, document management, general affairs, IT operation)	BO

## Reading

	Total (PI ranking)	Planning/coordination	Research/analysis	Implementing programs	Policy evaluations	Back office business
Collected Num (%)	1365 (100.0)	596 (42.9)	256 (18.8)	355 (26.0)	51 (3.7)	407 (29.8)
Boot up PC	99.8	99.8	99.8	100	100	99.6
documents, spreadsheets and ppps	91 (4)	95.9 (4.9)	92.8 (1.8)	91 (0)	92.2 (1.2)	86 (-5)
Internet websites	87.2 (5)	91.7 (4.5)	92 (4.8)	86.3 (-0.9)	96.1 (8.9)	80.8 (-6.4)
Intranet websites / internal bulletin board	79.7 (8)	79.9 (0.2)	79.7 (0)	78.6 (-1.1)	84.3 (4.6)	80.2 (0.5)

## Findings

- There are slight differences in PI reflecting the types of work.
- P/C read slightly more files and internet websites than others.
- R/A also read slightly more internet websites.
- PE read many more internet websites and internal information than others.
- While BO do not read so much documents and internet websites.

## Writing/Making Files

	Total (PI ranking)	Planning/ coordination	Research/ analysis	Implementing programs	Policy evaluations	Back office business
Collected Num (%)	1365 100.0	586 42.9	256 18.8	355 26.0	51 3.7	407 29.8
Boot up PC	99.8	99.8	99.8	100	100	99.6
Documents (3)	95.3 2.6 2	97.9 -0.8 3	94.5 -0.8 3	96.5 1.2 2	95.1 -0.2 4	92.5 -2.8 3
Spreadsheets (6)	79.9 8	78.6 -1.3 8	85.7 5.8 6	71.7 -8.2 8	82.4 2.5 8	84.2 -4.3 5
Presentations (11)	41.7 15.8 9	57.5 15.8 9	46.9 5.2 11	44.1 2.4 10	43.1 1.4 12	24.1 -17.6 15
databases (15)	24.4 -2.3 17	22.1 -2.3 17	24.6 0.2 16	20.1 -4.3 16	14.7 -9.7 19	28.4 4 11

## Findings

- Same as Reading, writing/making files PI are reflecting the features of each type of different work.
- P/C use Presentation much more often than others.
- R/A use spreadsheets and presentations more often than others (except P/C's use of presentations).
- On the other hand IP do not use databases very often and use spreadsheets even less often.
- PE do not use databases as often than others.
- While, BO use spreadsheets and databases a little more often, BO do not use presentations as much. PI of BO's presentations shows less than one half of that of D/C.

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## Searching Information

	Total (PI ranking)	Planning/ coordination	Research/ analysis	Implementing programs	Policy evaluations	Back office business
Collected Num (%)	1365 100	586 42.9	256 18.8	355 26	51 3.7	407 29.8
Boot up PC	99.8	99.8	99.8	100	100	99.6
Internet Websites (7)	79.8 6.6 6	86.4 6.6 6	84.2 4.4 7	83.2 3.4 6	94.1 14.3 5	68.8 -11 8
Legal Documents (9)	45.7 54.9 9.2 10	42.6 54.9 9.2 10	42.6 -3.1 12	53.8 8.1 9	64.7 19 9	32.7 -13 10
Official Publications (10)	42.8 8 11	50.8 8 11	59.4 16.6 9	40.3 -2.5 11	62.7 19.9 10	27.4 -15.4 13
Books, research papers (12)	39.0 8.2 12	47.2 8.2 12	49.4 10.4 10	39.2 0.2 12	48 9 11	27.5 -11.5 12
Mail Magazines (16)	23.4 28.6 5.2 15	27 28.6 5.2 15	27 3.6 15	23.4 0 15	26.5 3.1 15	16.6 -6.8 17

## Findings

- It is quite clear that both P/C and PE like and have to use searching technology.
- R/A also use this technology more except with legal document searching.
- The searching technology is not so much used by BO because their job would not require so much various information through searching.
- IP are just in an average position in using this technology except particularly legal documents. This is also very understandable because of the characteristics of their job.

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## E-mail communications

	Total (PI ranking)	Planning /coordination	Research /analysis	Implementing programs	Policy evaluations	Back office business
Collected Num (%)	1365 100	586 42.9	256 18.8	355 26	51 3.7	407 29.8
Reading (1)	97.4 1.4 1	98.8 1.4 1	97.5 0.1 1	97.7 0.3 1	100 2.6 1	95.9 -1.5 1
Sending (2)	96.1 1.6 3	97.7 1.6 3	95.9 -0.2 2	96.2 0.1 3	99 2.9 2	94.8 -1.3 2

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## Findings

- There is no significant difference in using E-mail communications, which has become a real necessity among every type of work. Compared with telephone communication, the speed of diffusing is amazing.
- However, BO are a little behind in the use of this technology.

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## E-discussion

	Total (PI ranking)	Planning /coordination	Research /analysis	Implementing programs	Policy evaluations	Back office business
Collected Num	1365	586	256	355	51	407
(%)	100	42.9	18.8	26	3.7	29.8
Boot up PC	99.8	99.8	99.8	100	100	99.6
Mailing Groups in the Ministry	21 (17)	27 6 16	21.7 0.7 17	16.5 -4.5 17	23.5 2.5 17	20.1 -0.9 16
E-discussion outside of the Government	14.6 (18)	19.9 5.3 18	17.4 2.8 18	13.4 -1.2 18	26.5 11.9 16	11.2 -3.4 18
E-discussion within the Ministry	8.8 (20)	12.6 3.8 19	9.4 0.6 19	6.6 -2.2 20	16.7 7.9 18	6.6 -2.2 20
E-discussion across Ministries	3.6 (22)	6.6 3 21	3.1 -0.5 22	2.1 -1.5 22	6.9 3.3 21	2.5 -1.1 22

## Findings

- P/C and PE are slightly advancing the E-discussion use.
- It may reflect that they are a bit more socialized to this technology.
- On the other hand, Implementing Program's PI have only one third or one half of the highest PI in each use.
- This may also be a reflection of the different features of the types of work.

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## E-Proceedings

	Total (PI ranking)	Planning /coordination	Research /analysis	Implementing programs	Policy evaluations	Back office business
Collected Num	1365	586	256	355	51	407
(%)	100	42.9	18.8	26	3.7	29.8
Boot PC	99.8	99.8	99.8	100	100	99.6
E-Approval	35.1 (13)	41.1 6 13	30.3 -4.8 13	30.1 -5 13	42.2 7.1 13	35.5 0.4 9
E-Transactions	10.5 (19)	12.6 2.1 19	7.6 -2.9 20	11.7 1.2 19	10.8 0.3 20	9.7 -0.8 19

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## Findings

- In the case of E-approval, it is very interesting that P/C and PE have comparatively higher PIs than others.
- In comparison, IP's PI is low. It may suggest that E-approval is not yet at a matured stage, because IP have a vital role for an approval process.
- Compared to E-approval, E-translations' PI are low in any type of work. This may be because of the very early stage in operation and offices using this are limited.

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## Others

	Total (PI ranking)	Planning /coordination	Research /analysis	Implementing programs	Policy evaluations	Back office business
Collected Num	1365	586	256	355	51	407
(%)	100	42.9	18.8	26	3.7	29.8
Boot PC	99.8	99.8	99.8	100	100	99.6
Schedule Management	28.7 (14)	33.4 4.7 14	28.9 0.2 14	28 -0.7 14	27.5 -1.2 14	25.1 -3.6 14
E-Learning	5.1 (21)	5.8 0.7 22	4.7 -0.4 21	3.7 -1.4 21	5.9 0.8 22	6.1 1 21

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## Findings

- (schedule management)
- P/C are slightly in favor of Schedule management.
- (e-learning)
- Since E-learning is not yet significantly installed in both Ministries, this response should not be understood equally with others.

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## Experience in IT policy/operation

## A: Reading

Experience in IT policy/operation	Total	no	yes	Yes-no
Collected Num	1365	806	559	
(%)	100	59	41	
Boot up PC	99.8	99.7	99.9	0.2
Documents, spreadsheets and power point presentations	91	88.5	94.7	6.2
	4	4	4	8
Internet websites	87.2	84.3	91.3	7
	5	5	5	4
Intranet websites/Internal bulletin board	79.7	78.7	81.2	2.5
	8	7	7	14
Red colored: Above average yes-no(4.5)				

## B: Writing / Making files

Experience in IT policy/operation	Total	no	yes	Yes-no
Collected Num	1365	806	559	
(%)	100	59	41	
Documents	95.3	94.6	96.3	1.7
	3	3	3	17
Spreadsheets	79.9	79.8	80.1	0.3
	6	6	8	19
Power point presentations	41.7	35.6	50.5	14.9
	11	12	9	1
databases	24.4	24.6	24.2	-0.4
	15	15	16	22
Red colored: Above average yes-no(4.5)				

## C: Searching information

Experience in IT policy/operation	Total	no	yes	Yes-no
Collected Num	1365	806	559	
(%)	100	59	41	
Internet websites	79.8	76.9	83.9	7
	7	8	6	4
Legal documents	45.7	43.9	48.3	4.4
	9	9	10	11
Official publications	42.8	40	47	7
	10	10	11	4
Books, research papers	39	37.1	41.7	4.6
	12	11	12	10
Mail magazines	23.4	21.3	26.5	5.2
Red colored: Above average yes-no(4.5)				
	16	16	15	9

## D: E-mail communications

Experience in IT policy/operation	Total	no	yes	Yes-no
Collected Num	1365	806	559	
(%)	100	59	41	
Reading	97.4	96.7	98.4	1.7
	1	1	1	17
Sending	96.1	95.2	97.3	2.1
	2	2	2	16

## E: E-discussion

Experience in IT policy/operation	Total	no	yes	Yes-no
Collected Num	1365	806	559	
(%)	100	59	41	
Mailing Groups in the Ministry	21	19.8	22.8	3
	17	17	17	13
E-discussion outside of the Government	14.6	11	19.9	8.9
	18	18	18	3
E-discussion within the Ministry	8.8	8.6	8.9	0.3
	20	20	20	19
E-discussion across Ministries	3.6	2.6	4.9	2.3
	22	22	22	15
Red colored: Above average yes-no(4.5)				

## F: Electronic proceedings

Experience in IT policy/operation	Total	no	yes	Yes-no
Collected Num	1365	806	559	
(%)	100	59	41	
<b>E-approval</b>	35.1	32.2	39.2	7
	13	13	13	4
<b>E-transactions</b>	10.5	10.5	10.6	0.1
	19	19	19	21

Red colored: Above average yes-no(4.5)

## G: Others

Experience in IT policy/operation	Total	no	yes	Yes-no
Collected Num	1365	806	559	
(%)	100	59	41	
<b>Schedule management</b>	28.7	24.9	34.3	9.4
	14	14	14	2
<b>E-Learning</b>	5.1	3.5	7.5	4
	21	21	21	12

Red colored: Above average yes-no(4.5)

## Findings(1)

- According to my calculation, average PI difference among all IT use between IT policy/operation experienced and non-experienced is 4.5.
- It indicates that such experience may have a slight affect on IT use.

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## Findings(2)

- PI differences between experienced and non-:(in descending order)
  - 1.Making power point presentations 14.9
  - 2.Schedule management 9.4
  - 3.E-discussion outside of the Government 8.9
  - 4.Reading Internet websites 7
  - 4.Searching Internet websites 7
  - 4.Searching Official publications 7
  - 4.E-approval 7
    - Average difference of all IT use is 4.5.

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## Findings(3)

- The experience of IT policy/operation might make people more familiar with generally less popular IT uses such as making presentation, schedule management and e-discussion.
- The internet is also more familiar to them because they tend to use searching tools more often.
- They may have less disinclination to E-approval.
- However, such as e-mail communications, there is no substantial difference between the experienced and non-experienced.

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## E-Gov<sup>1</sup> as a search web of Official publications

1: E-Gov is the Japanese Government's Portal like first-gov in US

<http://www.e-gov.go.jp/>  
<http://www.firstgov.gov/>

## Findings

- E-gov is not popular among respondents.
- However, respondents in "mic" use more often, perhaps because they know more e-Gov which is provided by one of the bureaus in "mic".
- When you look at differences by type of positions carefully, lower positions might not use so much as higher ones. (As respondents of DG/DDG are mostly METI officials, it would be better not to consider DG/DDG results.)
- By types of work, interestingly, PE and BO use e-gov more than others.

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## Ways to search official publication

	ticked	(%)
E-Gov	38	4.3
Combined use of E-Gov and others	148	16.8
(Subtotal)	(186)	(20.1)
Each agency's website	399	45.2
Google, yahoo	297	33.7
Total	882	100

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## Reasons of non e-gov use

	Total	(%)
Familiar with engine using at present	491	70.5
Own agency's search engine	82	11.8
Faster Search speed	106	15.2
Easy to search	256	36.8
well linked	110	15.8
other	72	10.3
total	696	160.4

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## Difference between "mic" and METI

	mic(%)	METI(%)	mic-METI(%)
E-Gov	6.6	3.8	2.8
Combined use of E-Gov and others	23.6	10.3	13.3
(Subtotal)	(30.2)	(14.1)	(16.1)
Each agency's website	41	47.9	-6.9
Google, yahoo	28.8	38	-9.2

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## Difference by types of positions

	Total	DG/DDG	Director	DD	Assistant	Junior
(%)	Difference from t (%)	Difference from t (%)	Difference from t (%)	Difference from t (%)	Difference from t (%)	Difference from t (%)
E-Gov	4.3	4	0.8	1.5	-0.3	-2.1
Combined use of E-Gov and others	16.8	-8.5	10.3	1.9	-2.4	-4.3
(Subtotal)	(20.1)	(-3.5)	(12.1)	(4.4)	(-1.7)	(-5.4)
Each agency's website	45.2	13.1	-0.3	0.4	-0.2	-0.6
Google, yahoo	33.7	-8.7	-10.8	-3.8	3	7.1
Total	100					

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## Difference by types of work

	Total	Planning /coordination	Research /analysis	Implementing programs	Policy Evaluations	Back office Business
(%)	Difference from t (%)	Difference from t (%)	Difference from t (%)	Difference from t (%)	Difference from t (%)	Difference from t (%)
E-Gov	4.3	-1.3	0.5	1.8	2.2	2.3
Combined Use of E-Gov And Others	16.8	0	-2.4	-5.9	7.1	3.4
(Subtotal)	(21.1)	(-1.3)	(-1.9)	(-4.1)	(9.3)	(7.7)
Each agency's website	45.2	-0.4	0.3	2.4	-8.2	-0.4
Google, yahoo	33.7	1.8	1.7	1.7	-1.1	-5.3

## Difference IT policy/operation Experienced and non-experienced (%)

E-Gov	2.2
Combined use of E-Gov and others	0.7
(Subtotal)	(2.9)
Each agency's website	-3.2
Google, yahoo	0.3

## Conclusion

### 1. Needs-driven use

- 'Big Gap' of PI in IT use and differences of PI in types of work clearly show that needs in routine works have strong influences on each IT use.
- Needs can be divided into two types, one is daily needs and another is a specific need.
- We can say that "necessity is the mother of high usage".
- In other words, we should start with what is actually and potentially needed for the improvement of Government performance.
- However, Needs is not enough for sufficient condition of IT use.

### 2. Interest-driven use

- Some low PI IT use may be used out of the respondents' interests or curiosities.
- But if respondents lose their interests, they will quit using. Some e-discussion failures are evident.
- Interest driven use is not enough for the outbreak of the usage. They must recognize constant benefit and more needs.

### 3. The problems of E-approval

- While promoters are forcefully introducing E-approval in both ministries, we received many unsatisfactory comments against E-approval through our survey.
- There are three types of complaints:
  - 1) NO comprehensive review and change of business processes
  - 2) Some nod (s) of approval chains denial causes stoppage of E-approval
  - 3) Discrepancy between hardware and software
- The case is an example of how technology enactment theory works.

### 4. No transformation yet

- A very few young entrepreneurial officials once sought e-government as a tool to make Japanese government more citizen (potential) needs driven.
- However, as they changed their positions, the enthusiasm disappeared.
- Present e-Gov does not go far beyond existing procedures and routines.
- We need to assess the extent to which the recent Enterprise Architecture approach in Japanese Government has influenced the transformation of Government institutions.

## 5. What is needed for workable e-Gov.

- Two conditions are necessary.
- 1) Top level officials involvement and responsibility of Government job review and change.
  - They should draw the future vision of Government routines/procedures and, if necessary, should have the courage to change institutions by the high level officials.
  - They should then carefully think and design IT so that it could be used to support the necessary changes to government.
- 2) Social pressure as well as encouragement for citizen-oriented Government, by enhancing the concept : the citizen is a center.

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## app. What is innovation in Government?

- Innovation is not limited to a process innovation of Government service.
- Government service or policy should also be a product of innovative thinking.
- Lawmakers set policy directions by introducing laws. But, at the same time government officials should have an innovative and entrepreneurial sense of policy implementation and even recommendations towards more citizen-oriented policies through their routine works.

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Fin!  
any comments are welcome

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## Ref. About our survey structure

- The survey was jointly conducted by “The Study group on Virtual State” and “The Institute of Administrative Information Systems”  
<http://www.iais.or.jp/en/index.html>  
sponsored by “Japan Information Processing Development Corporation ”  
<http://www.jpdec.jp/eng/>.

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## “The Study group on Virtual State”(1)

- This group was originally set up to understand institutional aspect of e-government including it's impact on the traditional concept of bureaucracy.
- It is a voluntary based and informal gathering among researchers and experts.

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## “The Study group on Virtual State”(2)

- The members are:
  - Hideaki Shiroyama : Associate Professor of the University of Tokyo (General Supervisor of the survey)
  - Yuki Yasuda : Visiting Associate Professor of the University of Tokyo
  - Hiroko Kudo : Professor of Chuo University
  - Shigeo Kasai : CIO assistant at Ministry of Economy, Trade & Industry (Bearing Point Inc., Senior Manager)
  - Miki Akiyama : Researcher, Keio Research Institute at SFC
  - Yoshiyuki Kuwahara : CIO assistant at Financial Services Agency (Headstrong Corp. Principal)
  - Hirokazu Okumura : Visiting Professor of the University of Tokyo
- Professor Shiroyama acted as General Supervisor of the survey. He joined interviews with Hirokazu Okumura to back up the survey.
- The survey was initiated, designed and conducted by Hirokazu Okumura with a series of discussions among “The Study group on Virtual State” members.

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Legend for chart slides  
(not applicable to whole picture  
charts)

- **Red number** shows PI is above 5 point over total average in the same IT use.
- **Pink number** shows PI is 4-5 point over total average in the same IT use.
- **Sky blue number** shows PI is 4-5 point under total average in the same IT use.
- **Blue number** shows PI is below 5 point under total average in the same IT use.