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Abstract

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1.	56
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2. 가	75
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6	91
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2- 1)		15
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A study on the librarian's role in the environment of digital library

Hong-Mok Ch

*Major in Information Management
Graduate School of Business Administration
Pukyong National University*

Abstract

This thesis aims to study on the librarian's role according as the library changes to digital environment.

Its principal contents are as follows, first, we referred to various documents for digital library and researched into actual conditions of digital library which was administering electron reference information service.

Secondly, we distributed a questionnaire about the use of digital library and the librarian's role to users in university libraries of Busan area and received its replies, analyzed them by a technical statistical analysis.

Thirdly, we made a hypothesis on the relation of librarian's role and its degree of recognition, and executed an actual analysis by Correlation analysis and ANOVA analysis.

The result of this study showed that OA utilization ability, the degree of recognition for library search system and the

utilization ability of foreign scientific DB as well as the degree of recognition for foreign scientific DB, the searching ability of foreign scientific DB and an experience of use for their mutual systems were closely related among them. There was no difference in the degree of satisfaction about librarians according to OA utilization ability, to the degree of recognition for library search system and foreign scientific DB. Besides, the result of the frequency analysis by level showed that the most important librarian's role was to connect information resources with users in all levels.

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Service)
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SAS

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2

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1.

가

가

Licklider (1965) “ ”

, 10 Lancaster, F. W. (1978) “

(paperless library)” 가

Theodor Nelson (1974) (Hypertext)

(Hyperspace) .¹⁾

, Miksa Doty (1994)

.

1995 가 (NII: National Information Infrastructure)

IIT A (Information Infrastructure Technology and Applications) “

” 2).

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1) Harter, S. P., "What is a digital library? Definitions, content, and issues." In proceedings of international conference in digital libraries and information services for the 21st century. Seoul: The Korean Library and Information Science Society, 1996, pp.8-17

2) , “
(<http://www.nanet.go.kr/whatsnew/library/file/nal99044.htm>)

가 (Electronic Library),
 (Digital Library),
 , 가 ,
 가 (Virtual Library), (Multimedia
 Library), (Library without the wall), (Cyber
 Library)
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 , 가

1)

가
 , ,
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 Butler, B.³⁾
 가 ,
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, Rowley, J. E.⁴⁾

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- 3) Butler, Brett, "The electronic library program: developing networked electronic library collections." 「Library Hi Tech」, vol.9 no.2(1991), p.23
 4) Rowley, Jennifer E., The basics of information technology, London: Clive Bingley, 1988, p.14

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Dowlin, K. E.⁵⁾

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2)

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5) Dowlin, K. E., The electronic library, New york: Neal-Schuman Publishers, 1984, p.199

6) ， " "， 「圖書館學論集」， 25 (1996.)， pp.536-537

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 ,
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 (Media Converter)
 ,
 .7)
 Garret, J. R. & Lyons, P. A.⁸⁾
 , (全文),
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 , 가 0 1
 () 가 ,
 (가) .
 (UCLA)
 ‘ ... ’
 , , , 가
 , .9)
 Charchre, V.¹⁰⁾
 (mind)
 가 ,
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7) , , p.538

8) Garret, J. R. & Lyons, P. A, "Toward an electronic copyright management system", 「JASIS」, vol.44 no.8(1993). p.468

9) Harter, S. P., op. cit., pp.8-17.

10) Charchre, Vinod, "A perspective on linking multimedia digital libraries", 「Information technology and libraries」, vol.11 no.1(1992), p.41

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2.

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 ,¹⁶⁾

15) , , p.540
 16) , , p.540

.17)

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.18)

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가 ‘ (全文)

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, (Association of Research Libraries)가

1) (single entity)가 . ,

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2)

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3)

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17) , " (Digital Library)
」, vol. 38 no.2(1997. 3-4), p.42

18) , " 가? , , " , 「
」, vol.52 no.2(1997, 12), p.118

19) , , p.42

4)

가 . ,

5)

가
(full text)

20)

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(full-text)
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20) , , : (), 1998. p.331

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가 ,
· ,
가 가 .²¹⁾
Battin, P. 1984 EDUCOM Bulletin ' ,
' , 1990
(online gateway),
가 DB , 가
, (browsing),
.²²⁾
Wellman, M. P.²³⁾ 가
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· ,
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가
Wellman

21) 3 , " 가
」 , 30 3 (1996), p.40

22) , , p.540

23) Wellman, M. P. and Edmund, H. D., "The digital library as community of information agents", 「IEEE Expert」, vol.11 no.3(1996), pp.10-11

가

SDI (Selective Dissemination of Information Service),
,
(Document Delivery Service),
(Interlibrary Loan Service), E-Mail ,
(WAP, Mobile Service),
. 가 JAVA 가
SGML
, 가 .

1.

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(FAQ) 3 (30%)
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	○	○	○	
	○	○	×	
	○	○	×	
	○	○	×	
	○	○	×	

1)

(1) : <http://solarsnet.snu.ac.kr/>

(2) ‘ ,

‘
(3) ‘E-Mail ‘ , , ,

(4) ‘ , .

(5) ‘ , .

4)

(1) : <http://library.gsnu.ac.kr/>

(2) ‘ , ’

(3) ‘ , ’

5)

(1) : <http://pulip.pusan.ac.kr/>

(2) ‘FAQ(Frequently Asked Question)’

(3) ‘ , ’

(4) ‘ (SDI:Selective Dissemination of Information)’

(5) ‘Question and Answer’

(6) ‘ , ’

6)

(1) : <http://cyberchips.chonnam.ac.kr>

(2) ‘FAQ(Frequently Asked Question)’

(3) ‘ , ‘ , ’

(4) ‘ , ‘ / , ‘ , ‘Q&A’

7)

(1) : <http://library.chonbuk.ac.kr/>

(2) ‘ , , ’

8)

(1) : <http://chulic.cheju.ac.kr/>

(2) ‘ , , ’

가

9)

(1) : <http://clins.chungnam.ac.kr/>

(2) ‘SDI , ‘ , ’

(3) ‘ , , ’

(4) ‘ , .

10)

(1) : <http://cbnul.chungbuk.ac.kr/>

(2) ‘ , ‘ ’(), ‘
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2. 가



2-1) 가

가 ,
가

24

21

가

, < 2-1> 가

, < 2-2> 가 6

2-2) 가

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	○	○	○	
	×	×	×	
()	○	○	○	
	○	○	○	
KAIST	○	○	○	

1)

(1) : - <http://www.nl.go.kr/index.php3>

- <http://www.dlibrary.go.kr/home/>

(2) ‘ ’ FAQ

(3) ‘ ’ ‘ ’ ; ‘ ’ ; ‘ ’ ;
 ‘ ’ 4 , ‘
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(4) ‘ , ,

(5) ‘ , ‘ ,

2)

(1) : <http://www.nanet.go.kr/>

(2) ‘FAQ’ .

(3) ‘ ,

(4) ‘ , ‘ , ‘ , ‘ , ‘ Best

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(5) ‘ ,

‘ , ‘ , ‘ , ‘ , ‘ Best , ‘ 가

3)

(1) : <http://sclib.scourt.go.kr/>

[illegible]

4) $\frac{1}{2} \leq \alpha \leq 1$, $\frac{1}{2} \leq \beta \leq 1$ ()

(1) : <http://www.kisti.re.kr/>

(2) () 2001 1

(3) ‘ , ‘Q&A’

(4) ‘ , ‘Q/ A’ ‘FAQ’

5)

(1) : <http://www.riss4u.net/>

(2) ‘ ’ ‘FAQ’

(3) 'Q&A'

(4) ‘ $\vdash$ ’,

6) KAIST ()

(1) : - <http://pasteur.kaist.ac.kr/>
- <http://darwin.kaist.ac.kr/Ko/main.html>

(2) 'FAQ'

(3) ‘Help Desk’

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(4) ‘Services’

‘ ’, ‘ ’, ‘ ’, ‘ ’

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E-Mail

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(5) ‘ ’

SDI

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(6) ‘ ’

가

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3.

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(FAQ)

4

(50%)

< 2-3>

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2-3)

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	○	○	×	
	○	○	○	
	○	○	○	
	○	○	×	

1)

(1) : <http://libweb.pknu.ac.kr/>

(2) ‘E-Mail ’

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(3) ‘FAQ’

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(4) ‘ , ,

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(5) ‘ ,

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2)

(1) : <http://kmulib.kmaritime.ac.kr/>

(2) ‘ , ’

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[illegible]

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3)

(1) : <http://kulis.kyungsung.ac.kr/>

(2) ‘ , ‘ , ’

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2-2>

(3) ‘FAQ(Frequently Asked Question)’

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(4) ‘ , ’

(5) ‘ , ’

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(6) ‘*_____*’.

(3) ‘ ’ 3

6)

(1) : <http://delias.donggeui.ac.kr/>

(2) ‘ ’ ‘ (Q&A)’

(3) ‘ ’ ‘ Q&A’

(4) ‘ ’ 가 ,

(5) ‘ (Library Mailing List)’

WWW

7)

(1) : <http://library.pufs.ac.kr/>

(2) ‘FAQ’

(3) ‘ ’

8)

(1) : <http://ilis1.inje.ac.kr/>

(2) ‘ , , 가 , , .

(3) ‘ , 가 .

(4) ‘ , .

(5) ‘ / / , .

(6) ‘ PC , 가 PC .

4.

24 < 2-4>

2-4) (24)

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	(10)	(6)	(8)	
()	10(100%)	5(83.3%)	8(100%)	23(95.8%)
(.)	10(100%)	5(83.3%)	8(100%)	23(95.8%)
(FAQ)	3(30%)	5(83.3%)	4(50%)	12(50%)

24 23 (95.5%)

(<http://www.scourt.go.kr/main.html>)

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23 (95.8%)
, 23 ()
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(26%) .
, 23
< 2-5> .

2-5)

	(%)
	10(41.7)
	6(25)
Q&A	4(16.7)
	1(4.2)
	1(4.2)
	1(4.2)
	23(96)

‘ () (Q&A)’ .
4 (16.7%) ‘ ,
· KAIST 2 (8.3%)가
23 가 ID
7 (30.4%) .

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2-6)

	(%)
	7(29.2)
	6(25)
SDI	2(8.3)
	1(4.2)
E - Mail	1(4.2)
LAN	1(4.2)
	1(4.2)
	1(4.2)
PC	1(4.2)
	2(8.3)
	23(96)

가 , , KAIST , ‘SDI’, ‘ , ’ .

3

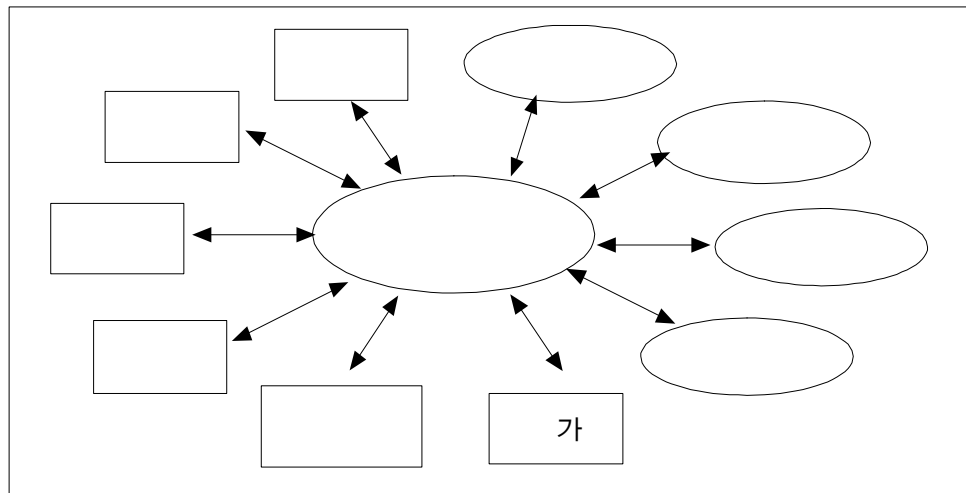
1

27) Sloan, Bernie, Service perspectives for the digital library, 1998.
<<http://alexia.lis.uiuc.edu/sloan/e-ref.html>>

28) 11 1 (1994), p.162.

, FAQ 가 .
Twidale²⁹⁾

, 가
< 3-1>



3-1) 가 <Twidale et al., 1996>

Twidale

(1)

(2)

29) Twidale, Michael, David Nichols, and Chris Paice, "Browsing is a collaborative process", 1996, Technical Report-CSEG/1/96. Computing Department, Lancaster University. <<http://www.comp.lancs.ac.uk/computing/research/cseg/projects/ariadne/docs/bcp.html>>

(3) ()

(4)

(5) (browsing)

(6)

, Ackerman, M.³⁰⁾

4가

(1)

(2)

(3)

(4) 가

가

가

가

가

30) Ackerman, Mark, "Providing social interaction in the digital library",
Proceedings of the first annual conference on the theory and practice of
digital libraries, 1994.
<<http://www.cSDL.tamu.edu/DL94/position/ackerman.html>>

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< 3-1>

， 가(Electronic Reference Shelf) ，
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가 .³¹⁾

3-1)

		www. 가
		가 ()
		， ， (Mobile Service, WAP)
		FAQ(Frequently Asked Question)

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2 .

3 가

31) ， " ，
「圖書館學論集」， 26 ,(1997,)， p.545

2

1. 가(Electronic Reference Shelf)

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WWW

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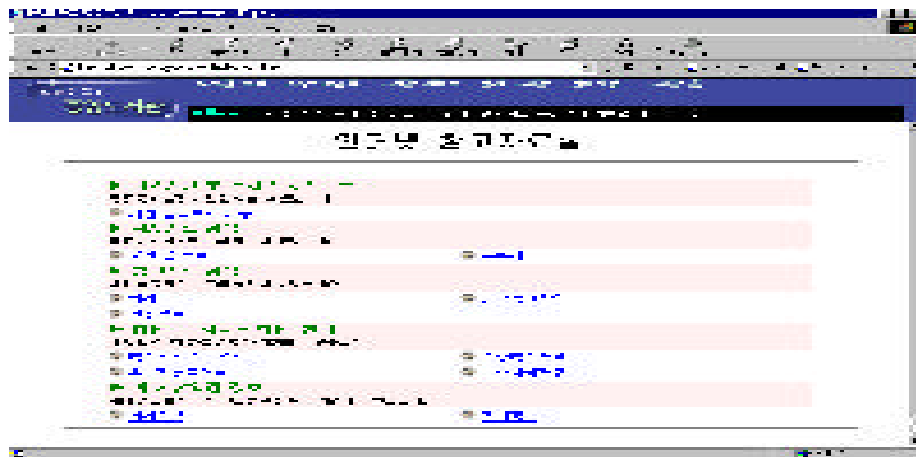
가

,32)

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3-2>

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3-2)

가

32) , , , , : , 2001, p.84

2.

가

가

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가

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WhitePine Software

CU-SeeMe

. CU-SeeMe

TCP/IP

PC

1:1 1:

가 .

VideoPhone

InternetPhone

InternetPhone

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(3)

가

33) , : , 1998.
pp.290-291.

(4)

,34)

3. (Electronic Mail Service)

(Electronic Mail : E-mail)

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가 ,35) 가
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- (1) 가 .
- (2) 가 .

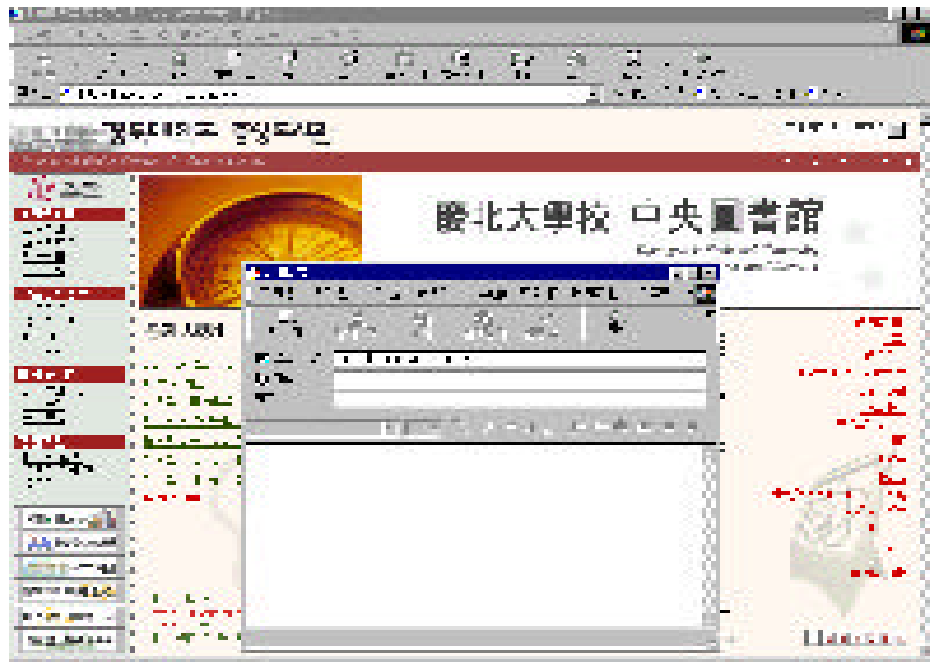
34) . " , 15 1 (1998, 6), pp.112- 113.

35) , , " , 33 5 (1996. 10), p.56.

36) , , , p.57
, , pp.113,115.

- (3) 가
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- (4) .
- (5) ,
(follow up interaction) 가 .
- (6) 가 , 가
- (1) 가 가
- (2) (batch communication) , .
- (3) 가 ,
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- (4) 가
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- (1) 3
- (2) 가 가 가
- (3)
- (4) ,
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- PC
- 가 .³⁷⁾
- < 3-3> .

37) , , , p.65.



3-3)

4. (Bulletin Board System = BBS)

가

- ,38)

(1) 가

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38) , , , , p.83.

(4)

(1)

(2) 가

(3)

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(4)

가

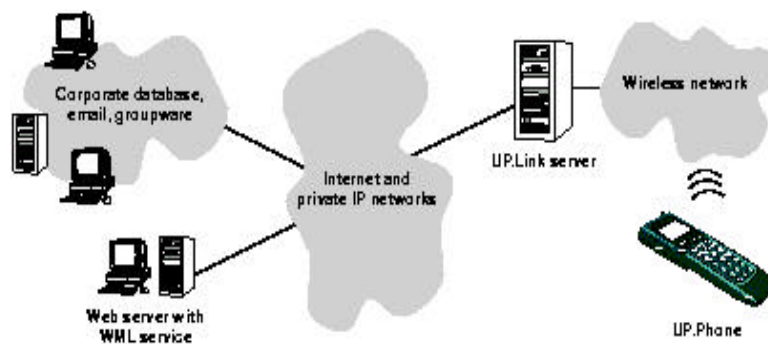
가 가

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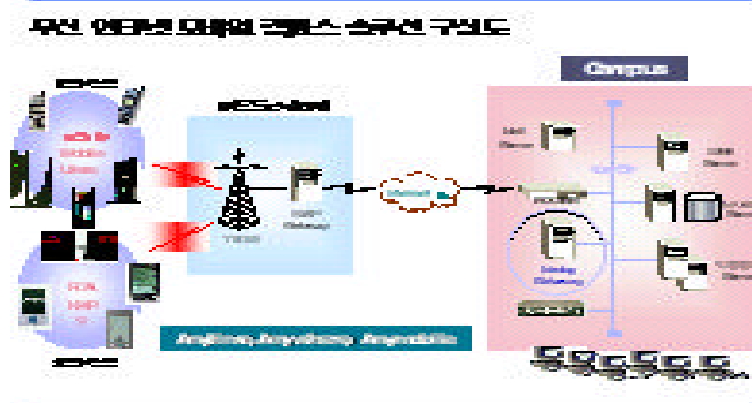
.39)

< 3-4>

39) , , pp.115- 116



3-5) WAP



3-6)

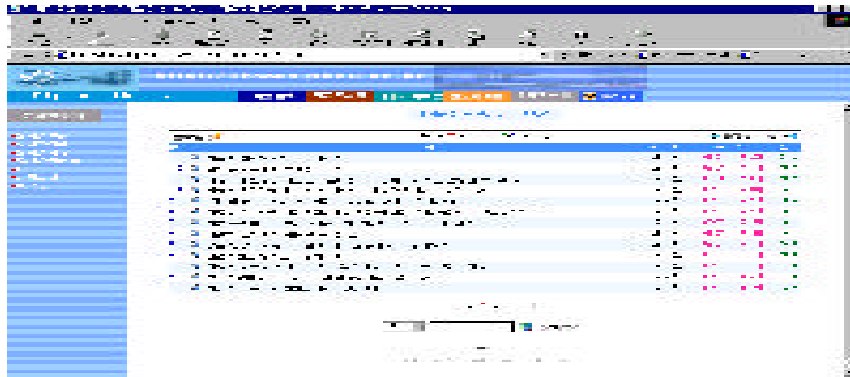
6. FAQ(Frequently Asked Questions)

FAQ

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FAQ

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3-7)

FAQ

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가 , 가
가 . ,
40) ' (librarian)
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(American Library Association: ALA)⁴¹⁾
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42) '
가 ,

40) , , : , 1996, p.184

41) Heartsill Young, ed., The ALA of library and information science, Chicago: ALA, 1983, p.236

42) 圖書館問題研究所 編, 圖書館用語辭典, 東京: 角川春樹, 1976, p.186

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가
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가 .

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.43)

WWW ‘
(E-mail reference service)’, ‘
. WWW

43) , " , 1999. p.23

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.44)

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가 .45)

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가 가

.46)

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가 .

Lancaster⁴⁷⁾

44) , , p.542

45) , , p.23

46) 3 , , p.41

47) Lancaster, F. Wilfred, "Toward paperless information systems", New York: Academic Press, 1978.

가
가 , 가

가

· 가 가 가가
가 가가 .
Dowlin 가 가

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49) S. Michael Malinconico, "Technology and the academic workplace",
「Library Administration & Management」, winter(1991), p.26

가가
가가 가

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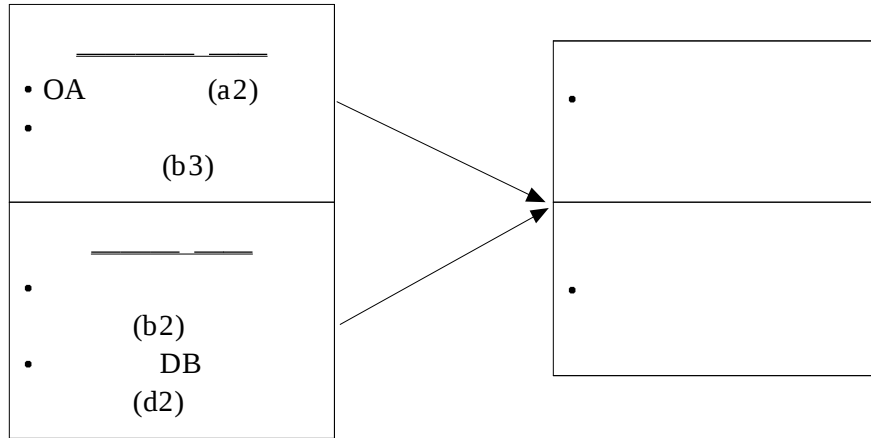
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5

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82.63% ·
SAS ,
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(Chronbach's alpha) ,
가 ANOVA ·
가 ·
1 가

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OA
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DB
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< 5-1>
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5- 1)



Lancaster

가

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가 OA

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가

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[가 1- 1] OA

가

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[가 1- 2]

가

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Dowlin

가

가 .

[가 2-1]

가 .

[가 2-2]

DB

가 .

[가 1]

[가 2]

OA

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가

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39

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(4)

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Likert 5

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< 5-1> .

5-1)

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1.	
- OA 가 S/W (1)	W/P, P/P, Excel, Internet,
- OA (2)	Likert 5
- (3)	/ Help Desk / 가 /
- 가 (4)	S/W / H/W / Virus / OS /
- (5)	/ / /
- (6)	1 / 3-4 / 1 / 1 /
- DB (7)	Likert 5
- (8)	Likert 5
- (9)	
2.	
- (1)	/
- (2)	
- (3)	Likert 5
- (4)	Likert 5
- (5)	Likert 5
- (6)	/ / PC / PC / /
- (7)	Likert 5
- (8)	/ 가 / / /
3.	
- (1)	/ / . / / / / /
- (2)	/
- (3)	
- (4)	Likert 5

()	
- (5)	가 / 가 / /
4.	
- (1)	// /
- DB (2)	/ /
- DB (3)	Likert 5
- DB (4)	Likert 5
- (5)	full-text()가 / DB가 / / /
- (6)	/ / / / / .
- (7)	/ .
- (8)	FAQ/ . / /
- (9)	
5.	
- (1)	/
- (2)	1 / 3-5 / 1-2 / 1-2 /
- (3)	Likert 5
- (4)	Likert 5
6.	
- (1)	/
- (2)	
- (3)	/ () / () / /
- (4)	

2.

(reliability)

(score)

가

가

(dependability),

(stability),

(consistency),

가

(predictability),

(accuracy)

가

가

(Chronbach's alpha)

.

가

(split-half reliability)

.

가

.

0.7

, 0.6

가

.

.

< 5-2>

.

a2 : OA

a3 :

a5 :

b1 :

b2 :

b3 :

c3 :

d2 :

DB

d3 : DB

d7 :

5-2)

SAS									
CORR									
:	a2	a3	a5	b1	b2	c3	d2	d3	d7
Cronbach				α					
				α					

				0.597106					
				0.618513					
				Cronbach					
				α			α		
				-----			-----		
a2		0.407929		0.531181		0.387275		0.567906	
a3		0.167750		0.604699		0.168051		0.622826	
a5		0.242935		0.597851		0.243431		0.604542	
b1		0.144159		0.596879		0.162993		0.624031	
b2		0.375137		0.540451		0.377546		0.570458	
c3		- .054779		0.632631		- .009033		0.663409	
d2		0.544826		0.516072		0.510804		0.534551	
d3		0.466143		0.508997		0.466400		0.546747	
d7		0.432999		0.558223		0.452533		0.550508	

< 5-2> Cronbach Alpha 가 0.6
(reliability) 가 .

3

6 190
157 82.63% .
SAS ,
 ,
OA , ,
 , DB
 ,
(Chronbach's alpha) , 가

ANOVA

1.

1)

5-3)

			(%)	(%)
			78(50)	156(100)
			78(50)	
			62(39.74)	130(83.33)
			68(43.59)	
	()		4(2.56)	9(5.77)
			5(3.21)	
	()		4(2.56)	5(3.21)
			1(0.64)	
			8(5.13)	10(6.41)
			2(1.28)	
			-	2(1.28)
			2(1.28)	

50% ,
83.33%(130)

2) OA

OA 가 software가 ,

Internet .

5-4) 가 OA () %

가 OA		W/P	P/P	Excel	Internet	
		58 (53.21)	13 (59.09)	36 (53.73)	69 (48.25)	176
		51 (46.79)	9 (40.91)	31 (46.27)	74 (51.74)	165
()		86 (78.90)	16 (72.73)	55 (82.09)	119 (83.22)	276
		8 (7.34)	3 (13.64)	6 (8.96)	8 (5.59)	25
		4 (3.67)	3 (13.64)	6 (8.96)	5 (3.50)	15
		9 (8.26)	-	3 (4.48)	9 (6.29)	21
		2 (1.83)	-	-	2 (1.40)	4
		109 (31.96)	22 (6.45)	67 (19.65)	143 (41.94)	341

156 가 OA software가

()

2가 , software

W/P 109 (31.96%), Web

Internet 가 143 (41.94%) .

5-5) OA () %

OA							
		7 (4.52)	12 (7.74)	47 (30.32)	9 (5.81)	3 (1.94)	78
		2 (1.29)	11 (7.10)	46 (29.68)	17 (10.97)	1 (0.65)	77
		7 (4.52)	15 (9.68)	79 (50.97)	24 (15.48)	4 (2.58)	129
	()	1 (0.65)	4 (2.58)	4 (2.58)	-	-	9
	()	1 (0.65)	1 (0.65)	3 (1.94)	-	-	5
		-	2 (1.29)	6 (3.87)	2 (1.29)	-	10
		-	1 (0.65)	1 (0.65)	-	-	2
		9 (5.81)	23 (14.84)	93 (60.00)	26 (16.77)	4 (2.58)	155

OA ‘ ’ 가 32
 (20.65%) , 93 (60%) ‘ ’ . 80.65%가 OA
 .
 () 26 2 (1.29%) ‘ ’
 , OA
 .

5-6)

() %

				Help-Desk	가		
		27 (17.42)	47 (30.32)	1 (0.65)	2 (1.29)	1 (0.65)	78
		3 (1.94)	55 (35.48)	5 (3.23)	13 (8.39)	1 (0.65)	77
		22 (14.19)	89 (57.42)	5 (3.23)	11 (7.10)	2 (1.29)	129
	()	3 (1.94)	4 (2.58)	-	2 (1.29)	-	9
	()	2 (1.29)	3 (1.94)	-	-	-	5
		3 (1.94)	6 (3.87)	-	1 (0.65)	-	10
		-	-	1 (0.65)	1 (0.65)	-	2
		30 (19.36)	102 (65.80)	6 (3.88)	15 (9.68)	2(1.30)	155

‘
 , 가 30 (19.36%) OA 가 ‘
 , 32 (20.65%) OA
 .
 ‘ , 가 3
 가 27 . ‘ ,
 .

5-7)

() %

		S/W	H/W	Virus	OS		
		25 (16.45)	26 (17.11)	5 (3.29)	13 (8.55)	6 (3.95)	75
		16 (10.53)	30 (19.74)	10 (6.58)	19 (12.50)	2 (1.32)	77
		33 (21.71)	44 (28.95)	13 (8.55)	28 (18.42)	8 (5.26)	126
	()	1 (0.66)	5 (3.29)	1 (0.66)	2 (1.32)	-	9
	()	3 (1.97)	1 (0.66)	-	1 (0.66)	-	5
		4 (2.63)	5 (3.29)	-	1 (0.66)	-	10
		-	1 (0.66)	1 (0.66)	-	-	2
		41 (26.98)	56 (36.84)	15 (9.87)	32 (21.05)	8 (5.26)	152

가

56 (36.84%), software
(21.05%) ,

가 41 (26.97%), 32

5-8) Internet

() %

		17 (10.97)	22 (14.19)	16 (10.32)	18 (11.61)	4 (2.58)	77
		6 (3.87)	37 (23.87)	19 (12.26)	13 (8.39)	3 (1.94)	78
		6 (3.87)	55 (35.48)	33 (21.29)	28 (18.06)	7 (4.52)	129
	()	5 (4.65)	3 (1.94)	-	1 (0.65)	-	9
	()	4 (2.58)	-	1 (0.65)	-	-	5
		6 (3.87)	1 (0.65)	1 (0.65)	2 (1.29)	-	10
		2 (1.29)	-	-	-	-	2
		23 (14.84)	59 (38.06)	35 (22.58)	31 (20.00)	7 (4.52)	155

Internet 가 , ,
 가 117 (75.48%) ,
 Internet .

5-9) Internet

() %

		1 1	1 3-4	1 1		
		59 (37.82)	16 (10.26)	2 (0.64)	2 (1.28)	78
		44 (28.21)	27 (17.31)	7 (4.49)	-	78
		82 (52.56)	40 (25.64)	6 (3.85)	2 (1.28)	130
	()	9 (5.77)	-	-	-	9
	()	3 (1.92)	2(1.28)	-	-	5
		7 (4.49)	1 (0.64)	2 (1.28)	-	10
		2 (1.28)	-	-	-	2
		103 (66.03)	43 (27.56)	8 (5.13)	2 (1.28)	156

Internet 103 (66.03%)
 1 Internet
 , Internet ‘ ,
 31 (20%) .

3)

, .

5- 10) () %

		67 (42.95)	11 (7.05)	78
		67 (42.95)	11 (7.05)	78
		109 (69.87)	21 (13.46)	130 (83.33)
	()	9 (5.77)	-	9 (5.77)
	()	5 (3.21)	-	5 (3.21)
		9 (5.77)	1 (0.64)	10 (6.41)
		2 (1.28)	-	2 (1.28)
		134 (85.90)	22 (14.10)	156 (100)

‘ ,

가 156 가 134 가

.

() %

137

() 25 가 24 .

5- 12)

() %

		2 (1.48)	32 (23.70)	30 (22.22)	4 (2.96)	1 (0.74)	69
		2 (1.48)	32 (23.70)	29 (21.48)	3 (2.22)	-	66
		3 (2.22)	49 (36.30)	50 (37.04)	6 (4.44)	1 (0.74)	109
	()	-	5 (3.70)	3 (2.22)	1 (0.74)	-	9
	()	-	4 (2.96)	1 (0.74)	-	-	5
		1 (0.74)	4 (2.96)	5 (3.70)	-	-	10
		-	2 (1.48)	-	-	-	2
		4 (2.96)	64 (47.41)	59 (43.70)	7 (5.19)	1 (0.74)	135

가

127 (94.07%)

.

5- 13)

() %

		1 (0.74)	34 (25.19)	27 (20.00)	6 (4.44)	1 (0.74)	69
		1 (0.74)	26 (19.26)	33 (24.44)	6 (4.44)	-	66
		2 (1.48)	45 (33.33)	52 (38.52)	10 (7.41)	1 (0.74)	110
	()	-	5 (3.70)	3 (2.22)	1 (0.74)	-	9
	()	-	3 (2.22)	2 (1.48)	-	-	5
		-	6 (4.44)	2 (1.48)	1 (0.74)	-	9
		-	1 (0.74)	1 (0.74)	-	-	2
		2 (1.48)	60 (44.45)	60 (44.44)	12 (8.89)	1 (0.74)	135

45.93%가 ‘ ,

50.37%

5- 14) () %

			PC	PC				
		9 (11.54)	12 (15.38)	4 (5.13)	5 (6.41)	2 (2.56)	1 (1.28)	33
		11 (14.10)	12 (15.38)	9 (11.54)	8 (10.26)	3 (3.85)	2 (2.56)	45
		16 (20.51)	21 (26.92)	12 (15.38)	10 (12.82)	2 (2.56)	2 (2.56)	63
	()	-	1 (1.28)	-	2 (2.56)	2 (2.56)	1 (1.28)	6
	()	1 (1.28)	1 (1.28)	1 (1.28)	-	-	-	3
		3 (3.85)	1 (1.28)	-	1 (1.28)	1 (1.28)	-	6
		-	-	-	-	-	-	0
		20 (25.64)	24 (30.76)	13 (16.67)	13 (16.67)	5 (6.41)	3 (3.85)	78 (100)

30.76%가

PC , 가 25.64%, PC () 16.67%

CPU ,

PC

PC

5- 15)

() %

		1 (0.74)	28 (20.74)	30 (22.22)	9 (6.67)	-	68
		2 (1.48)	22 (16.30)	33 (27.41)	6 (4.44)	-	67
		2 (1.48)	39 (28.89)	56 (41.48)	13 (9.63)	-	110
	()	-	4 (3.70)	3 (2.22)	2 (1.48)	-	9
	()	-	4 (2.22)	1 (0.74)	-	-	5
		1 (0.74)	2 (4.44)	6 (4.44)	-	-	9
		-	1 (0.74)	1 (0.74)	-	-	2
		3 (2.22)	50 (37.04)	67 (49.63)	15 (11.11)	-	135

88.89%가

가

5- 16)

() %

		가					
		7 (22.58)	2 (6.45)	3 (9.68)	1 (3.23)	2 (6.45)	15
		5 (16.13)	4 (12.90)	5 (16.13)	-	2 (6.45)	16
		12 (38.71)	6 (28.89)	7 (22.58)	-	-	29
	()	-	-	-	-	-	-
	()	-	-	1 (3.23)	-	-	1
		-	-	-	-	-	1
		-	-	-	-	-	-
		12 (37.71)	6 (19.35)	8 (25.81)	1 (3.23)	4 (12.90)	31

135 가 ‘ ,
13 31 가 ,
156 ‘ 가 ,
12 (37.71%)

4)

DB

,
.

5- 17) () %

		3 (1.94)	33 (21.29)	41 (26.45)	77
		2 (1.29)	33 (21.29)	43 (27.74)	78
		5 (3.23)	44 (28.39)	80 (51.61)	129
	()	-	8 (5.16)	1 (0.65)	9
	()	-	5 (3.23)	-	5
		-	7 (4.52)	3 (1.94)	10
		-	2 (1.29)	-	2
		5 (3.23)	66 (42.58)	84 (54.19)	155

() %

45.81%가

•

→

5- 19)

DB

() %

DB					
		6 (3.85)	16 (10.26)	56 (35.90)	78
		1 (0.64)	24 (15.38)	53 (33.97)	78
		2 (1.28)	26 (16.67)	102 (65.38)	130
	()	1 (0.64)	7 (4.49)	1 (0.64)	9
	()	1 (0.64)	3 (1.92)	1 (0.64)	5
		2 (1.28)	3 (1.92)	5 (3.21)	10
		1 (0.64)	1 (0.64)	-	2
		7 (4.49)	40 (25.64)	109 (69.87)	156

5- 20)

DB

() %

DB							
		-	6 (3.92)	20 (13.07)	35 (22.88)	15 (9.80)	76
		-	5 (3.27)	23 (15.03)	30 (19.61)	19 (12.42)	77
		-	6 (3.92)	28 (18.30)	59 (38.56)	34 (22.22)	127
	()	-	2 (1.31)	7 (4.58)	-	-	9
	()	-	2 (1.31)	2 (1.31)	1 (0.65)	-	5
		-	-	5 (3.27)	5 (3.27)	-	10
		-	1 (0.65)	1 (0.65)	-	-	2
		-	11 (7.19)	43 (28.10)	65 (42.48)	34 (22.22)	153

5-21) DB () %

DB							
		2 (2.08)	8 (8.33)	26 (27.08)	9 (9.38)	7 (7.29)	52
		-	4 (4.17)	27 (28.13)	6 (6.25)	7 (7.29)	44
		2 (2.08)	5 (5.21)	39 (40.63)	13 (13.54)	14 (14.58)	73
	()	-	3 (3.13)	6 (6.25)	-	-	9
	()	-	2 (2.08)	1 (1.04)	1 (1.04)	-	4
		-	1 (1.04)	6 (6.25)	1 (1.04)	-	8
		-	1 (1.04)	1 (1.04)	-	-	2
		2 (2.08)	12 (12.50)	53 (55.21)	15 (15.63)	14 (14.58)	96

DB 69.87%가 ‘ , , 30.13% . DB 64.70%가 ‘ , , 28.10%가 , 7.19% 가 . 가 ‘ , 0% . 96 가 67 (69.79%) , 가 .

5-22)

DB

() %

				()	()			
full-text()가	6 (7.59)	9 (11.39)	12 (15.19)	1 (1.27)	-	2 (2.53)	-	15
가 DB	6 (7.59)	10 (12.66)	14 (17.72)	-	-	2 (2.53)	-	16
,	18 (22.79)	15 (18.99)	30 (37.97)	-	1 (1.27)	2 (2.53)	-	33
가	6 (7.59)	3 (3.80)	8 (10.13)	-	-	1 (1.27)	-	9
	1 (1.27)	5 (6.33)	6 (7.59)	-	-	-	-	6
	37 (46.83)	42 (53.17)	70 (88.60)	1 (1.27)	1 (1.27)	7 (8.86)	-	79

DB

, → DB가 → full-text가
 . DB
 .

5-23)

() %

		14 (9.09)	64 (41.56)	78
		13 (8.44)	63 (40.91)	76
		14 (9.09)	114 (74.03)	128 (83.12)
	()	6 (3.90)	3 (1.95)	9 (5.84)
	()	2 (1.30)	3 (1.95)	5 (3.25)
		3 (1.95)	7 (4.55)	10 (6.49)
		2 (1.30)	-	2 (1.30)
		27 (17.53)	127 (82.47)	154 (100)

5- 25)

() %

		43 (27.92)	35 (22.73)	78
		38 (24.68)	38 (24.68)	76
		56 (36.36)	72 (46.75)	128 (83.12)
	()	9 (5.84)	-	9 (5.84)
	()	5 (3.25)	-	5 (3.25)
		9 (5.84)	1 (0.65)	10 (6.49)
		2 (1.30)	-	2 (1.30)
		81 (52.60)	73 (47.40)	154 (100)

‘ ’가 52.60%, ‘ ’가 47.40%

.

5- 26)

() %

		1 1	3-5	1-2	1-2		
		3 (3.41)	13 (14.77)	9 (10.23)	14 (15.91)	5 (5.68)	44
		6 (6.82)	8 (9.09)	11 (12.50)	13 (14.77)	6 (6.82)	44
		7 (7.95)	13 (14.77)	12 (13.64)	22 (25.00)	9 (10.23)	63
	()	1 (1.14)	-	5 (5.68)	2 (2.27)	1 (1.14)	9
	()	-	4 (4.55)	1 (1.14)	-	-	5
		1 (1.14)	3 (3.41)	1 (1.14)	3 (3.41)	1 (1.14)	9
		-	1 (1.14)	1 (1.14)	-	-	2
		9 (10.23)	21 (23.86)	20 (22.73)	27 (30.68)	11 (12.50)	88 (100)

9 ,

1

3-5 21

.

5-27)

() %

		-	20 (23.26)	20 (23.26)	3 (3.49)	-	43
		-	19 (22.09)	20 (23.26)	2 (2.33)	2 (2.33)	43
		-	31 (36.05)	26 (30.23)	2 (2.33)	2 (2.33)	61
	()	-	3 (3.49)	6 (6.98)	-	-	9
	()	-	3 (3.49)	1 (1.16)	1 (1.16)	-	5
		-	2 (2.33)	5 (5.81)	2 (2.33)	-	9
		-	-	2 (2.33)	-	-	2
		0 (0.00)	39 (45.35)	40 (46.51)	5 (5.81)	2 (2.33)	86 (100)

‘ ’ 52.60% 가 45.35% ‘
 ’ , 46.51% ,
 91.86%가 .

5-28)

() %

		2 (1.54)	32 (24.62)	23 (17.69)	8 (6.15)	2 (1.54)	67
		-	23 (17.69)	33 (25.38)	6 (4.62)	1 (0.77)	63
		2 (1.54)	41 (31.54)	46 (35.38)	12 (9.23)	3 (2.31)	104
	()	-	5 (3.85)	3 (2.31)	1 (0.77)	-	9
	()	-	4 (3.08)	1 (0.77)	-	-	5
		-	4 (3.08)	5 (3.85)	1 (0.77)	-	10
		-	1 (0.77)	1 (0.77)	-	-	2
		2 (1.54)	55 (42.31)	56 (43.08)	14 (10.77)	2 (2.31)	130 (100)

130 가 113 86.93%가

,

.

2. 가

OA ,

,

,

DB

ANOVA

,

.

< 5-33>

,

.

a2 : OA

a3 :

a5 :

b1 :

b2 :

b3 :

c3 : d2 : DB
d3 : DB d7 :

5-29)

	H0: Rho=0					Prob > r				
	a2	a3	a5	b1	b2	b3	c3	d2	d3	d7
a2	1.00000									
a3	0.22997 0.0039	1.00000								
a5	0.12609 0.1180	0.03481 0.6672	1.00000							
b1	0.09074 0.2599	0.17479 0.0291	0.04942 0.5401	1.00000						
b2	0.33719 <.0001	0.16326 0.0566	0.08982 0.2966	0.04744 0.5806	1.00000					
b3	0.12851 0.1374	-0.02158 0.8038	0.24242 0.0046	0.25015 0.0033	0.30646 0.0003	1.00000				
c3	-0.11700 0.3572	0.02208 0.8625	-0.06290 0.6215	0.11236 0.3767	0.04415 0.7466	0.09185 0.5008	1.00000			
d2	0.27785 0.0004	0.04224 0.6006	0.34233 <.0001	0.06134 0.4453	0.29555 0.0004	0.22293 0.0091	-0.12472 0.3261	1.00000		
d3	0.35322 <.0001	0.05534 0.4968	0.27378 0.0006	0.01008 0.9013	0.24442 0.0043	0.08465 0.3327	-0.12490 0.3294	0.66868 <.0001	1.00000	
d7	0.24629 0.0021	-0.01786 0.8260	0.14988 0.0636	0.13805 0.0867	0.28706 0.0007	0.17545 0.0418	0.21148 0.0961	0.41705 <.0001	0.34593 <.0001	1.00000

OA a2, a3 ,
(b2: 0.33719), DB (d3: 0.35322)
.
a5
DB (d2: 0.34233)가, b2
(b3: 0.30646)
.

DB d2 DB
(d3: 0.66868) 가 70% 가
. DB d2 DB
d3 (d7) 0.41705, 0.34593
. a5 DB (d3:
0.27378) , b2 DB
(d2: 0.29555), (d7: 0.28706) 가

가 ANOVA(Analysis of Variance)
, < 5-30>

- ㉠ :
- ㉡ :
- ㉢ :
- ㉣ :
- ㉤ :
- ㉥ :
- ㉦ :
- ㉧ :

5-30)

OA	(a2)	Group a2	1	2	3

	(c3)					
	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ

(b3)	Group b3	1	2	3

(c3)						
	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ

(b2)	Group b2	1	2	3

(c3)							
	(A)	(B)	(C)	(D)	(E)	(F)	(G)

DB (d2)	Group d2	1	2	3

(c3)							
	(A)	(B)	(C)	(D)	(E)	(F)	(G)

< 5-31> < 5-34> ANOVA 가 .

5-31) OA

ANOVA

SAS					
The ANOVA Procedure					
Class Level Information					
Class	Levels	Values			
groupa2	3	1	2	3	
Number of observations					
157					
: Due to missing values, only 64 observations can be used in this analysis.					
SAS					
The ANOVA Procedure					
Dependent Variable: c3					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.34656593	0.17328297	0.61	0.5480
Error	61	17.40343407	0.28530220		
Corrected Total	63	17.75000000			
R-Square					
0.019525					
Coeff Var					
25.89755					
Root MSE					
0.534137					
c3 Mean					
2.062500					
Source	DF	Anova SS	Mean Square	F Value	Pr > F
groupa2	2	0.34656593	0.17328297	0.61	0.5480
SAS					
The ANOVA Procedure					
Level of groupa2	N	-----c3-----			
		Mean	Std Dev		
1	16	2.06250000	0.57373048		
2	35	2.11428571	0.52978512		
3	13	1.92307692	0.49354812		

OA

2.0625,

2.0625,

2.1143,

1.9231

, OA

0.5480

.

5-32)

ANOVA

SAS					
The ANOVA Procedure					
Class Level Information					
Class	Levels	Values			
groupb3	3	1	2	3	
Number of observations		157			
: Due to missing values, only 56 observations can be used in this analysis.					
SAS					
The ANOVA Procedure					
Dependent Variable: c3					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.40982143	0.20491071	0.70	0.5012
Error	53	15.51875000	0.29280660		
Corrected Total	55	15.92857143			
R-Square	Coeff Var	Root MSE	c3 Mean		
0.025729	26.58114	0.541116	2.035714		
Source	DF	Anova SS	Mean Square	F Value	Pr > F
groupb3	2	0.40982143	0.20491071	0.70	0.5012
SAS					
The ANOVA Procedure					
Level of groupb3	N	-----c3-----			
		Mean	Std Dev		
1	32	1.96875000	0.53787965		
2	20	2.15000000	0.48936048		
3	4	2.00000000	0.81649658		

2.0357 , 1.9688,
2.1500, 2.0000 ,
0.5012

5-33)

ANOVA

SAS					
The ANOVA Procedure					
Class Level Information					
Class	Levels	Values			
groupb2	3	1 2 3			
Number of observations		157			
: Due to missing values, only 56 observations can be used in this analysis.					
SAS					
The ANOVA Procedure					
Dependent Variable: c3					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.18976190	0.09488095	0.34	0.7133
Error	53	14.79238095	0.27910153		
Corrected Total	55	14.98214286			
R-Square	Coeff Var	Root MSE	c3 Mean		
0.012666	26.18127	0.528301	2.017857		
Source	DF	Anova SS	Mean Square	F Value	Pr > F
groupb2	2	0.18976190	0.09488095	0.34	0.7133
SAS					
The ANOVA Procedure					
Level of groupb2	N	-----c3-----			
		Mean	Std Dev		
1	21	1.95238095	0.38421224		
2	25	2.08000000	0.64031242		
3	10	2.00000000	0.47140452		

2.0179 , 1.9524,
2.0800, 2.0000 ,
0.7133

.

5-34)

DB

ANOVA

SAS						
The ANOVA Procedure						
Class Level Information						
Class	Levels	Values				
groupd2	3	1 2 3				
Number of observations		157				
: Due to missing values, only 64 observations can be used in this analysis.						
SAS						
The ANOVA Procedure						
Dependent Variable: c3						
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F	
Model	2	0.34285714	0.17142857	0.60	0.5516	
Error	61	17.40714286	0.28536300			
Corrected Total	63	17.75000000				
	R-Square	Coeff Var	Root MSE	c3 Mean		
	0.019316	25.90030	0.534194	2.062500		
Source	DF	Anova SS	Mean Square	F Value	Pr > F	
groupd2	2	0.34285714	0.17142857	0.60	0.5516	
SAS						
The ANOVA Procedure						
Level of groupd2	N	-----c3-----				
		Mean	Std Dev			
1	7	2.14285714	0.37796447			
2	20	2.15000000	0.48936048			
3	37	2.00000000	0.57735027			

DB

2.0625 , 2.1429,
2.1500, 2.0000 , DB
0.5516

5-36)

() %

		30 (19.74)	46 (30.26)	76
		27 (17.76)	49 (32.24)	76
		35 (23.03)	91 (59.87)	126
	()	7 (4.61)	2 (1.32)	9
	()	4 (2.63)	1 (0.66)	5
		9 (5.92)	1 (0.66)	10
		2 (1.32)	-	2
		57 (37.50)	95 (62.50)	152

5-37)

() %

		6 (9.38)	27 (42.19)	2 (3.13)	-	-	35
		1 (1.56)	19 (29.69)	9 (14.06)	-	-	29
		6 (9.38)	28 (43.75)	8 (12.50)	-	-	42
	()	-	7 (10.94)	-	-	-	7
	()	1 (1.56)	3 (4.69)	-	-	-	4
		-	7 (10.94)	2 (3.13)	-	-	9
		-	1 (1.56)	1 (1.56)	-	-	2
		7 (10.94)	46 (71.88)	11 (17.19)	-	-	64

5-38)

() %

		가		가			
		6 (6.67)	24 (26.67)	2 (2.22)	-	13 (14.44)	45
		3 (3.33)	24 (26.67)	6 (6.67)	1 (1.11)	11 (12.22)	45
		8 (8.89)	46 (51.11)	8 (8.89)	1 (1.11)	23 (25.56)	89
	()	-	1 (1.11)	-	-	-	1
	()	-	1 (1.11)	-	-	-	1
		1 (1.11)	-	-	-	1 (1.11)	2
		-	-	-	-	-	-
		9 (10.00)	48 (53.33)	8 (8.89)	1 (1.11)	24 (26.67)	90

62.50%가 ‘

,

,

53.33%가 ‘

,

.

‘ (2)

.

‘

,

37.50%

가

82.82%가

‘

,

.

,

.

< 5-39>

< 5-42>

.

5-40)

() %

	40(18.78)	24(13.71)	1(4.17)
	19(8.92)	14(8.00)	2(8.33)
	37(17.37)	25(14.29)	6(25.00)
	51(23.94)	46(26.29)	3(12.50)
(/ / /)	39(18.31)	33(18.86)	8(33.33)
	24(11.27)	27(15.43)	4(16.67)
	2(0.94)	5(2.86)	-
	1(0.47)	1(0.57)	-
	213(100)	175(100)	24(100)

→ →
→ →
→ →
.

5-41)

() %

	17(18.48)	42(17.65)	6(7.69)
	4(4.35)	11(4.62)	11(14.10)
	13(14.13)	43(18.07)	14(17.95)
	26(28.26)	57(23.95)	19(24.36)
(/ / /)	16(17.39)	52(21.85)	14(17.95)
	14(15.22)	28(11.77)	12(15.38)
	2(2.17)	3(1.26)	2(2.56)
	-	2(0.84)	-
	92	238(100)	78(100)

→

→

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→

→

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→

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5-42)

DB

() %

	6(30.00)	24(20.34)	45(14.20)
	1(5.00)	9(7.63)	19(5.99)
	3(15.00)	11(9.32)	59(18.61)
	5(25.00)	33(27.97)	77(24.29)
(/ / /)	-	22(18.64)	70(22.08)
	5(25.00)	16(13.56)	39(12.30)
	-	3(2.54)	5(1.58)
	-	-	3(0.95)
	20(100)	118(100)	317

DB

→ , → , → , → .

OA (a2)

(b2), DB (d3) (+) 가 (a5)

가 , (a5)

DB (d2), (b2)

(b3), DB (d2)

DB (d3) (d7) 가

. DB (d3)

(d7) 가 .

OA (a2) (c3),

(a5) (c3),

(d3) (c3) DB (d2), DB
 가 (-) ,
 ANOVA .
 , 가 ANOVA
 OA (a2) (b3),
 (b2), DB (d2)
 (c3) 가 .
 → → →
 → .
 가 →
 → →
 → ,
 가
 → →
 → →
 → .

6

가 , ,
가 가 ,
가
.
10 ,
가 6 , 8
.
 ,
.
17
KAIST
 ,
 , (FAQ)
10 , 가
KAIST
 .

가 .

[가 1-1] OA

가 . [가 1-2]

가 . [가 2-1]

가 . [가

2-2] DB

가

6

SAS

(Chronbach's alpha)

가

‘OA

,

,

가

ANOVA

[가 1-1]

, ‘

,

,

가

ANOVA

[가 1-2]

.

[가 2-1]

,

가

,

,

가

ANOVA

, ‘

DB

가

,

가

ANOVA

[가 2-2]

.

,

.

,

.

1)

OA

(a2)

(b2),

DB

(d3),

(a5)

DB

(d2),

(b2)

(b3),

DB

(d2)

DB

(d3)

(d7),

DB

(d3)

(d7)

·

2) OA (a2) (c3),
(a5) (c3),
(c3) DB (d2), DB
(d3) (-) ·

3) ANOVA OA (a2)
(b3), (b2), DB (d2)
(c3) 가 ·

4)

→ →

→ → ·

,

가 ,

·

,

가
ANOVA

OA ,

,

DB , DB

·

가 ,

가

가

가

·

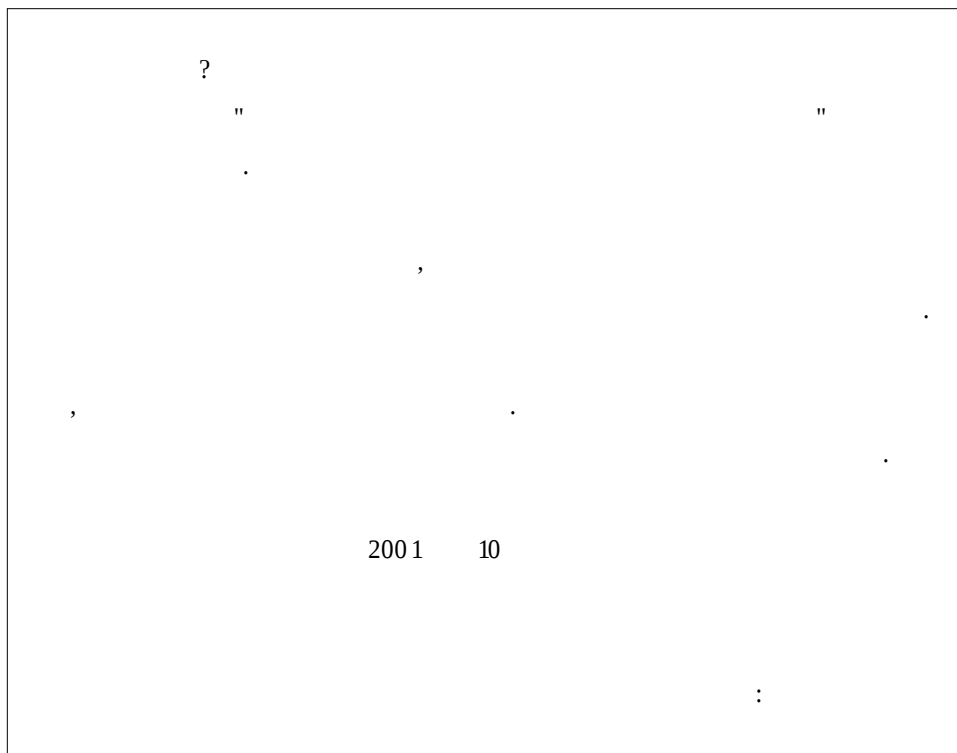
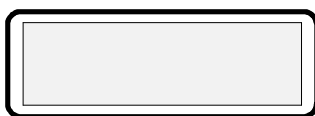
,

,

가

,

.



"✓"

.

1.

.

1) OA

?

WP()
(

P/P()

EXCEL()
)

Internet ()

- 2) OA S/W ?
 () () () ()
 ()
- 3) 가 ?
 ① () ② ()
 ③ Help Desk () ④ 가 ()
 ⑤ ()
- 4) 가 ?
 ① S/W () ② H/W () ③ virus ()
 ④ OS () ⑤ ()
- 5) ?
 ① () ② () ③ ()
 ④ () ⑤ ()
- 6) ?
 1 () 3-4 () 1 ()
 1 () ()
- 7) DB ?
 () () () () ()
- 8) () ?
 () () () () ()
- 9) 가 ?
 ()

2. .

- 1) ?
 ① () ② ()
 ① 2) - 7) ,
 ② 8) 가 .

- 2) ?
()
- 3) ?
() () ()
() ()
- 4) ?
() () ()
() ()
- 5) ?
() () ()
() ()
- 6) 4) ,5) ?
(3)
() PC ()
PC ()()
()
()
()
- 7) ?
() () ()
() ()
- 8) ?
① () ② 가 ()
③ ()
④ ()
⑤ (:)

3. .

1) ?(3)
()

()
· ()
()
(/ / /) ()
()
()
()

2) ?
() ()
① 3) - 4) ,
② 5) 가 .

3) ?
()

4) ?
() () ()
() ()

5) ?
가 ()
()
가 ()
()
()

4 .

1) ?

() () ()
2) DB ?
() () ()

- 3) DB ?
 () () ()
 () ()
- 4) DB ?
 () () ()
 () ()
- 5) 4) ?(3)
 가 full-text()가 ()
 DB가 ()
 , ()
 가 ()
 ()
- 6) 가
 .
 ① () ② () ③ ()
 ④ () ⑤ ()
 ⑥ ()
- 7) - ?
 (: FAQ, (Q&A),)
 ① () ② ()
- 8) " " ?
 ①FAQ() ② (Q&A)() ③ ()
 ④ ()
- 9)
 .
 ()

5. 가

- 1) ?
 () ()

2) " " ?
 1 () 3-5 () 1-2 ()
 1-2 () ()

3) " " ?
 () () ()
 () ()

4) ?
 () () ()
 () ()

6 .

1) : () ()
 2) : ()
 3) : (2가 가)

()
 () ()
 () ()
 ()
 () ()

4) ()

5) E-Mail DB

()



1.

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