

System Improvement Strategy by User Satisfaction Index Model Development and Measurement of Information System

(Yong-Jae Park)*, (Sang-Hwan Lee)**, (Seung-Jin Kwak)***

Matrix

ABSTRACT

By measuring satisfaction index of the users of Information System, it is possible not only to estimate ROI(Return on Investment) but also to draw the device for the efficiency and improvement of the System. This study tries to give User Satisfaction Index Model for the System, and present operators and managers of the system with the method for improving satisfaction and efficiency by measuring the User Satisfaction Index of representative information systems. For this, the survey was carried out for the representative information systems. On the basis of the analysis, Satisfaction Index was drawn and through Matrix Analysis, the strategy for system improvement was derived.

information system, user satisfaction index, matrix analysis,
improvement strategy, PLS, partial least squares

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Post_Doc (pyjeje@etri.re.kr)

(sanglee@kisti.re.kr)

(sjkwak@cnu.ac.kr)

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1.

1.1

(ACSI : American Customer Satisfaction Index)

가
1990 Fornell
(1996)

가

1.2

PLS

, Fornell (1996)

가

ACSI
Least Squares)

PLS(Partial

Matrix

Matrix

Matrix

2.

2.1

Matrix

Fornell (1996)
(ACSI)

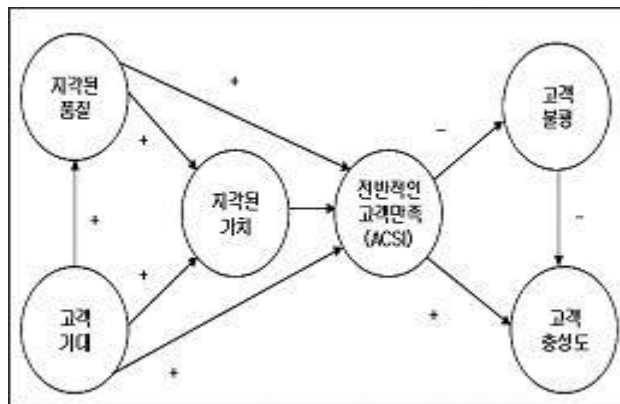
가

Serenko(2006) 가 , , ,
 ACSI (NCSI) (KCSI) Chiou(2004) 가
 ACSI < 1> Gerpott (2001)
 가 , , , Yang &
 Peterson(2004) 가
 가 가 가

2.2

2000

Turel &



< 1> ACSI

2.3

, Martensen &
Grønholdt (2003)

McLean(1992:2003)
IS(Information System)

DeLone &

PLS
(Priority
Map)

가

(2004) IT
ITFIND

& McLean(1992:2003)
(2003)

DeLone
Negash

AMOS

(2005)

, DeLone & McLean(1992)

Seddon(1997)

(2006)

가

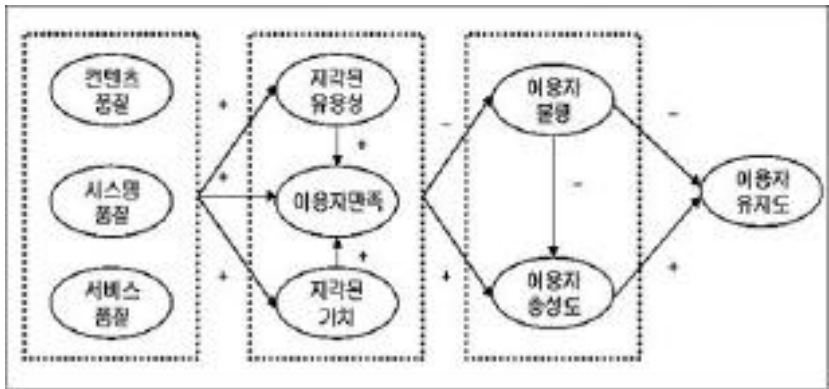
Phelps & Mok(1999)

(2006)

가

LISREL

2.4



< 2>

SPSS 12.0k 가 34.4%, 33.6%, 27.6%, 4.4%

PLS 3.0 가 3.3

PLS 가 Excel 2003

3.2 < 2> 7 <

83.1%, 16.9% 3.4

30 가 42.5% 가 20 PLS

25.4%, 40 23.8%, 50 8.3% ICR(Internal Consistency Reliability) 가 1), 0.7

40.2%, 38.8%, 21% (Fornell & Lacker 1981; Chin 1998).

1) $ICR = (\sum i)^2 / [(\sum i)^2 + \sum var(i)]$, i , $var(i) = 1 - i^2$

< 2 >

	A1	,	
	A2		7
	A3		
	A4	가	
	A5		
	B1		
	B2		7
	B3	,	가
	B4		
	B5		
	C1		
	C2		7
	C3		
	C4		
	C5		
	D1		7
	D2		
가	E1	가	7
	E2	가	
	F1		
	F2		7
	F3		
	F4	가	
	G1		7
	H1		7
	H2		
	I1		7
	I2		

< 3>

			ICR
	A1	0.8434	0.895
	A2	0.7472	
	A3	0.8409	
	A4	0.8001	
	A5	0.7292	
	B1	0.7829	0.929
	B2	0.8874	
	B3	0.8549	
	B4	0.8692	
	B5	0.8578	
	C1	0.8616	0.911
	C2	0.8752	
	C3	0.8236	
	C4	0.7652	
	C5	0.7678	
	D1	0.8921	0.854
	D2	0.8353	
가	E1	0.9314	0.931
	E2	0.9347	
	F1	0.8705	0.919
	F2	0.8587	
	F3	0.8726	
	F4	0.8374	
	H1	0.9372	0.940
	H2	0.9463	
	I1	0.9249	0.896
	I2	0.8772	

, Gefen & Straub(2005) () (AVE)
 ,2)

< 4>

					가			
	0.800							
	0.567	0.820						
	0.583	0.742	0.849					
	0.625	0.577	0.606	0.864				
가	0.599	0.676	0.615	0.692	0.933			
	0.682	0.677	0.686	0.791	0.746	0.860		
	0.536	0.504	0.550	0.642	0.523	0.727	0.942	
	0.302	0.295	0.387	0.446	0.334	0.464	0.666	0.901

0.8 0.7 3.5

0.7

Fornell (1996)
PLS

3.0

< 3>

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가

가

Variance Extracted)

(Fornell

가 ,

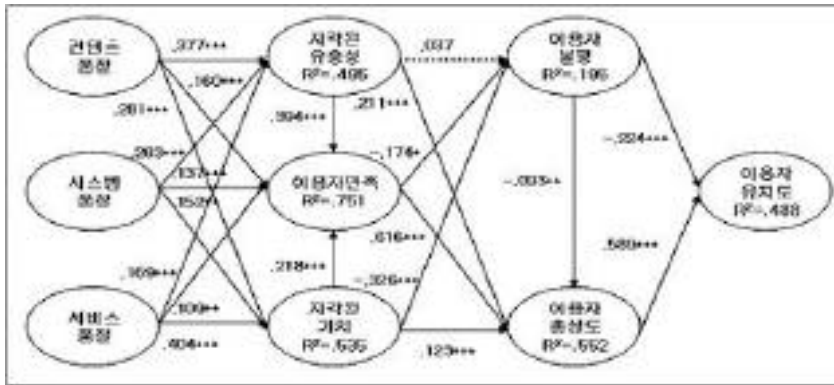
가 가

가

가 ,

가

2) AVE = $\frac{\sum R^2_i}{k}$, var(i) = 1 - $\sum R^2_i$



< 3>

< 5>

	(B)	t	
	0.160	4.365***	
	0.137	3.137***	
	0.109	2.442**	
	0.394	8.958***	
가	0.218	4.444***	
	0.377	8.782***	
	0.263	3.992***	
	0.169	2.610***	
가	0.281	6.028***	
가	0.152	2.242**	
가	0.404	7.069***	
	0.037	0.450	가
	0.211	2.887***	
	-0.174	1.866*	
	0.616	10.312***	
가	-0.326	4.315***	
가	0.123	1.752*	
	-0.093	2.522**	
	-0.224	5.180***	
	0.589	16.059***	

* : p<0.1, ** : p<0.05, *** : p<0.01

가 , 가

< 5> , < 5>
 가 76.1 가 ,
 74.3, 73.5,
 70.0

3.6

가가

Fornell

(1996)

10 Fornell (1996)

7 < 4>

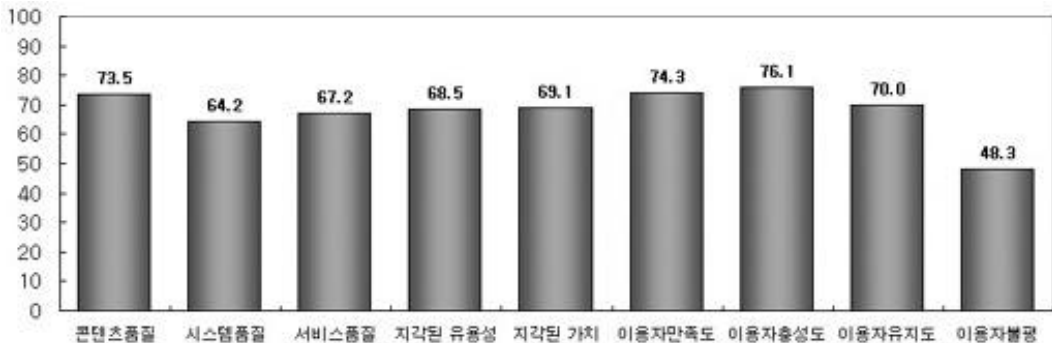
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가

$$\frac{\sum_{i=1}^n w_i \bar{x}_i - \sum_{i=1}^n w_i / 6}{\sum_{i=1}^n w_i} \times 100$$

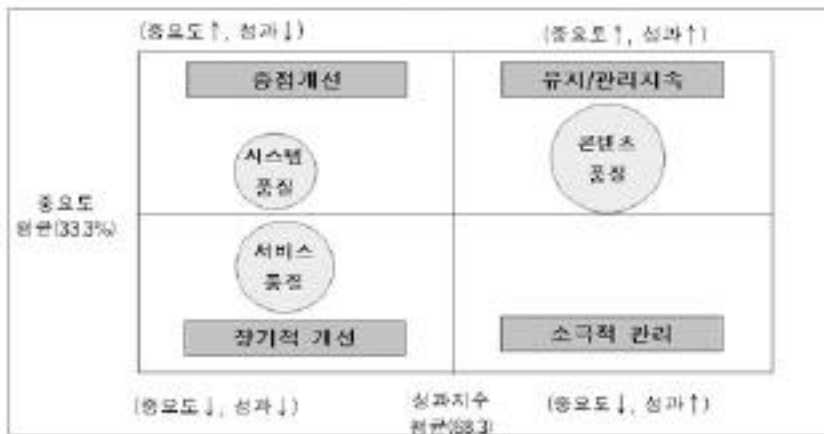
w_i : PLS 추정에 의한 항목 i의 가중치
 x_i : 항목 i의 평균

< 4>



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4. 가 , ,
 / , , Matrix ,
 Matrix 가 ,
 Matrix (Dutka 1994; Naumann & Giel 1995; Skok et al. 2001). Matrix
 Martensen & Grønholdt(2003)
 Matrix < 6>
 Matrix / 가 가 가
 가
 (2003) 가
 , / ,
 ,
 Matrix 가 .
 (2003) 가 가



< 6> Matrix

가 26.8% 가
가
가
가
Gerpott (2001)
Martix 가 24.5%
Martix 가
Martrix 가
Matrix
Matrix
Matrix
< 7 > 가



< 7 > Matrix

가 / (24.8%)

가

가 .

23.9% 가

가

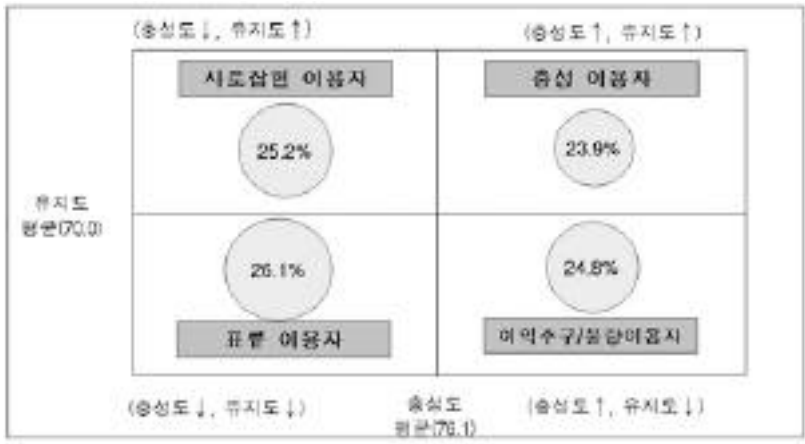
가 .

Matrix

Matrix

< 8>

26.1% 가



< 8> Matrix

가 .
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 ACSI
 PLS
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 Matrix
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 5.
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