

Appendix A

Commonwealth Countries Used In Exploratory Survey

A.1 Commonwealth countries used in exploratory survey

STATES	NOR	STATES	NOR	STATES	NOR
<u>Africa</u>		<u>Asia</u>		<u>The Oceanic & Pacific</u>	
Botswana	10	Bangladesh	5	Australia	520
Ghana	10	Brunei Darussalam	5	Fiji Islands	5
Kenya	10	India	130	Malaysia	25
Mauritius	5	Pakistan	25	New Zealand	125
Namibia	10	Sri Lanka	5	Singapore	25
South Africa	140	Total =	170	Total =	700
Zimbabwe	5				
Total =	190				

STATES	NOR	STATES	NOR
<u>The Americas</u>		<u>Europe, Mediterranean</u>	
Barbados	25	Cyprus	15
Canada	615	Malta	15
Jamaica	25	The United Kingdom	695
The Bahamas	25	Total =	725
Trinidad & Tobago	25		
Total =	715		

NOR – No. of respondents Total = 2500 Questionnaires

Appendix B

Exploratory KM Survey Questionnaire

B.1 Structural Knowledge and BI

Current state of KM (CS) – 7 Questions		Structural Knowledge (SK) - 14 Questions	
01_CS01	Organise information	13_SK01A	Value knowledge about customers
02_CS02	Transforms organisation's business	14_SK01B	Value knowledge about own market
03_CS03	Being done but has no name	15_SK01C	Value knowledge about own products/services
04_CS04	No knowledge of KM	16_SK01D	Value knowledge about competitors' market
05_CS05	KM is just a management fad	17_SK01E	Value knowledge on employees skills
06_CS06	KM initiative not in place	18_SK01F	Value knowledge on regulatory environments
07_CS07	Awareness of KM	19_SK01G	Value knowledge on methods & processes
Human Knowledge (HK) – 5 Questions			
08_HK01	Lost of best practice in specific area	20_SK02RA	Store knowledge on customers
09_HK02	Damage to key client/support relations	21_SK02RB	Store knowledge on own markets
10_HK03	Loss of significant income	22_SK02RC	Store knowledge on own products
11_HK04	Loss of vital information	23_SK02RD	Store knowledge competitors' markets
12_HK05	Employees provided with resources	24_SK02RE	Store knowledge on employees skills
		25_SK02RF	Store knowledge on regulatory environments
		26_SK02RG	Store knowledge on methods & processes.
Technological Infrastructure (TI) – 15 Questions			
27_TI01A	<u>1. Implementation</u>		
28_TI01B	Internet access implemented in organisation		
29_TI01C	Intranet infrastructure implemented in organisation		
30_TI01D	Document management systems in place		
31_TI01E	Groupware technologies used		
32_TI01F	Data warehousing & data mining used		
33_TI01G	Decision support used		
	Extranet support infrastructure implemented.		
	<u>2. Support & Access</u>		
34_TI02A	Internet access for KM support		
35_TI02B	Intranet infrastructure implemented for KM support.		
36_TI02C	Document management systems implemented for KM support.		
37_TI02D	Groupware technologies used to support KM initiative.		
38_TI02E	Data warehousing and data mining used to support KM initiatives		
39_TI02F	Decision support systems used to support KM initiative.		
40_TI02G	Extranet support infrastructure implemented for KM.		

Business Intelligence in KM (BI) - 25 Questions	
41_BI01	Strategy is important for KM initiative
42_BI02A	Current state of KM initiative
43_BI02B	KM strategy is being created
44_BI02C	Planning benchmarking & audit exercise
45_BI02D	Developing & measuring intellectual capital
46_BI02E	Planning job & process redesign of core processes
47_BI02F	Establishment of formal KM networks.
48_BI02G	Establishment of formal knowledge network
49_BI02H	Provided incentives & rewards for KM
50_BI03	KM strategy enhanced value-added services
51_BI04	KM strategy resulted in reduction in problem solving time.
52_BI05	Dedicated KM role.
53_BI06	Importance of dedicated budget
54_BI07	Willingness to share knowledge.
55_BI08	Employees learn from each other.
56_BI09R	<u>Culture does not encourage knowledge sharing.</u>
57_BI10R	<u>Lack of funding for Km initiatives</u>
58_BI11R	<u>Lack of understanding of KM initiatives</u>
59_BI12R	<u>Lack of appropriate technology</u>
60_BI13R	<u>Individuals don't have time to share information</u>
61_BI14R	<u>No rewards for knowledge sharing</u>
62_BI15	Knowledge is difficult to locate
63_BI16	Individuals do not share best practice
64_BI17R	<u>There is too much knowledge</u>
65_BI18	Much impetus from outside
Performance Analysis (PA)	
PA1	Benefits from setting up KM initiatives
PA2	Better decision making
PA3	Faster response time to key issues
PA4	Improving profits
PA5	Improving productivity
PA6	Creating new /additional business opportunities
PA7	Sharing best practice
PA8	Increased share price
PA9	Better staff attraction/retention
PA10	Industry leadership
PA11	Future outlook
PA12	HR involvement
PA13	Technology options
PA14	Revenue growth
PA15	New products/services development
PA16	Component interaction between technologies
PA17	Formalising the knowledge development cycle
PA18	Overall business performance
PA19	Assess value of merger/acquisition

B.2 Performance Analysis & Asynchronous Groupware

Performance Analysis (PA) – 12 Questions		Asynchronous Groupware (AG) – 18 Questions	
66_PA01	Benefits from setting up KM initiatives	78_OD01A	<u>Organisation Domain(OD)</u> KM decentralisation
67_PA02	Better decision making	79_OD01B	Knowledge & information sharing.
68_PA03R	<u>Faster response time to key issues.</u>	80_OD01C	Openness
69_PA04	Improving productivity.	81_OD01D	Inter-level & inter-departmental communication.
70_PA05	Creating new/additional business opportunities	82_OD01E	Management support to KM decentralisation.
71_PA06	Sharing best practice	83_OD01F	Alignment of KM with organisational goals.
72_PA07	Better staff attraction and retention.		<u>Group Domain (GD)</u>
73_PA08R	Revenue Growth	84_GD01A	Reuse of previous KM information
74_PA09	New Products & Service development.	85_GD01B	Process adoption
75_PA10	Component interaction between technologies.	86_GD01C	Hierarchy barriers suppression
76_PA11	Formalising the knowledge development cycle.	87_GD01D	Departmental heterogeneity
77_PA12	Overall business performance. Assess value of merger & acquisition.	88_GD01E	Individual influence
		89_GD01F	Information access
		90_GD01G	Duration
		91_GD01H	Cost
		92_GD01I	Effectiveness
96	<u>Biographic Data</u> Industry		<u>Individual Domain (ID)</u>
97	Classification	93_ID01A9	Satisfaction
98	Number of Employees	94_ID01B	Commitment to group proposal
99	Annual Turnover	95_ID01C	Learning.

Appendix C

Reliability Analyses (Cronbach Alpha) of Survey Items

C.1 Reliability Analysis Code - Cronbach's alpha for exploratory survey

```

SET Journal 'C:\DOCUME~2\HAROLD~1\LOCALS~1\Temp\spss.jnl' Journal On Small 0.000
  100 OLang English.
RELIABILITY
/VARIABLES=cs01 cs02 cs03 cs04 cs05 cs06 cs07 hk01 hk02 hk03 hk04 hk05 sk01a
sk01b sk01c sk01d sk01e sk01f sk01g sk02a sk02b sk02c sk02d sk02e sk02f sk02g
ti01a ti01b ti01c ti01d ti01e ti01f ti01g ti02a ti02b ti02c ti02d ti02e ti02f
ti02g bi01 bi02a bi02b bi02c bi02d bi02e bi02f bi02g bi02h bi03 bi04 bi05 bi06
bi07 bi08 bi09 bi10 bi11 bi12 bi13 bi14 bi15 bi16 bi17 bi18 pa01 pa02 pa03 pa04
pa05 pa06 pa07 pa08 pa09 pa10 pa11 pa12 od01a od01b od01c od01d od01e od01f gd01a
gd01b gd01c gd01d gd01e gd01f gd01g gd01h gd01i id01a id01b id01c
/FORMAT=LABELS
/SCALE (ALPHA)=ALL/MODEL=ALPHA
/STATISTICS=CORR
/SUMMARY=TOTAL .

```

Reliability

Warnings

The covariance matrix is calculated and used in the analysis.
 The determinant of the covariance matrix is zero or approximately zero. Statistics based on its inverse matrix cannot be computed and they are displayed as system missing values.

Case Processing Summary

		N	%
Cases	Valid	1225	100.0
	Excluded ^a	0	.0
	Total	1225	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.979	.981	95

C.2 KM strategy created for promoting IC

The SAS System 15:02 Saturday, December 13, 2003 1								
The CORR Procedure: Factor 1								
27 Variables:	bi11	bi10	cs06	pa02	pa05	bi02b	cs04	bi02d
	bi02a	gd01b	bi02c	bi03	bi13	bi05	od01e	gd01g
	bi06	sk01c	cs03	bi12	pa08	pa04	sk02g	bi08
	bi09	bi15	bi16					
Cronbach Coefficient Alpha								
	Variables				Alpha			
	Raw				0.941712			
	Standardized				0.944962			
Cronbach Coefficient Alpha with Deleted Variable								
	Raw Variables				Standardized Variables			
	Deleted	Correlation			Correlation			
	Variable	with Total	Alpha		with Total	Alpha		
	bi11	0.894076	0.935678		0.896133	0.939650		
	bi10	0.894076	0.935678		0.896133	0.939650		
	cs06	0.723682	0.938112		0.701597	0.941881		
	pa02	0.671664	0.939098		0.665939	0.942285		
	pa05	0.817474	0.936848		0.818441	0.940547		
	bi02b	0.891837	0.936816		0.901689	0.939586		
	cs04	0.593001	0.939777		0.580555	0.943245		
	bi02d	0.895306	0.935767		0.896151	0.939650		
	bi02a	0.871389	0.936746		0.882514	0.939808		
	gd01b	0.871113	0.936643		0.877681	0.939864		
	bi02c	0.798207	0.937250		0.798597	0.940775		
	bi03	0.807084	0.937241		0.801068	0.940747		
Cronbach Coefficient Alpha with Deleted Variable								
	Deleted							
	Variable	Label						
	bi11	LACK OF UNDERSTANDING OF KM INITIATIVES						
	bi10	LACK OF FUNDING FOR KM INITIATIVES						
	pa02	BETTER DECISION MAKING						
	pa05	CREATING NEW/ADDITIONAL BUSINESS OPPORTUNITIES						
	bi02b	KM STRATEGY IS BEING CREATED						
	cs04	NO KNOWLEDGE OF KM						
	bi02d	DEVELOPING & MEASURING INTELLECTUAL CAPITAL						
	bi02a	CURRENT STATE OF KM INITIATIVE						
	gd01b	PROCESS ADOPTION						
	bi02c	PLANNING BECHMARKING & AUDIT EXERCISE						
	bi03	KM STRATEGY ENHANCED VALUE-ADDED SERVICES						

C.3 KM strategy created for promoting IC

The SAS System 15:02 Saturday, December 13, 2003 2				
The CORR Procedure				
Cronbach Coefficient Alpha with Deleted Variable				
Raw Variables		Standardized Variables		
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha
bi13	0.788308	0.938772	0.791608	0.940855
bi05	0.833671	0.936890	0.833755	0.940371
od01e	0.823675	0.937096	0.833321	0.940376
gd01g	0.789026	0.937119	0.797625	0.940786
bi06	0.815175	0.937517	0.826153	0.940459
sk01c	0.798623	0.936867	0.813318	0.940606
cs03	0.510008	0.943157	0.512219	0.944006
bi12	0.747098	0.938291	0.751137	0.941318
pa08	0.451383	0.942700	0.446224	0.944736
pa04	0.657366	0.939651	0.655059	0.942408
sk02g	0.505980	0.940560	0.512309	0.944005
bi08	0.518579	0.940552	0.528081	0.943830
bi09	0.491185	0.941602	0.497388	0.944171
bi15	-.884317	0.951228	-.891195	0.958388
bi16	-.934975	0.955779	-.935704	0.958806
Cronbach Coefficient Alpha with Deleted Variable				
Deleted Variable	Label			
bi13	INDIVIDUALS DON'T HAVE TIME TO SHARE INFORMATION			
bi05	DEDICATED KM ROLE			
od01e	MANAGEMENT SUPPORT TO KM DECENTRALISATION			
gd01g	DURATION			
bi06	IMPORTANCE OF DEDICATED BUDGET			
sk01c	VALUE KNOWLEDGE ABOUT OWN PRODUCTS/SERVICES			
cs03	BEING DONE BUT HAS NO NAME			
bi12	LACK OF APPROPRIATE TECHNOLOGY			
pa08	REVENUE GROWTH			
pa04	IMPROVING PRODUCTIVITY			
sk02g	STORE KNOWLEDGE ON METHODS AND PROCESSES			
bi08	EMPLOYEES LEARN FROM EACH OTHER			
bi09	CULTURE DOES NOT ENCOURAGE KNOWLEDGE SHARING			
bi15	KNOWLEDGE IS DIFFICULT TO LOCATE			
bi16	INDIVIDUALS DO NOT SHARE BEST PRACTICE			

C.4 KM strategy created for promoting IC

Factor 1 Code:

```
Libname dat "c:\Sas\support\Mandie\HMC";
Libname test "c:\Sas\support\Mandie";
proc copy out=test in=dat;
run;
/*proc corr data=test.pilot_survey_v06b nocorr nosimple alpha; var
v1 v2 v3 v4 v5 v6 v7; run;*/
/*factor 1*/
proc corr data=test.pilot_survey_v06b nocorr nosimple alpha;

var bi11 bi10 cs06 pa02 pa05 bi02b cs04 bi02d bi02a gd01b bi02c bi03
bi13 bi05 od01e gd01g bi06 sk01c cs03 bi12 pa08 pa04 sk02g bi08 bi09
bi15 bi16;run;
```


C.5 Groupware technologies used to support structural capital

The SAS System 15:02 Saturday, December 13, 2003 3								
The CORR Procedure: Factor 2								
19 Variables:	ti01g	ti01f	pa11	od01a	bi07	ti02f	pa10	od01b
	ti02g	od01d	pa12	ti02e	ti01c	od01f	ti01d	pa09
	od01c	gd01c	bi17					
Cronbach Coefficient Alpha								
	Variables				Alpha			
	Raw				0.939854			
	Standardized				0.953541			
Cronbach Coefficient Alpha with Deleted Variable								
	Raw Variables				Standardized Variables			
	Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha			
	ti01g	0.792627	0.933798	0.785715	0.949802			
	ti01f	0.764542	0.934449	0.774210	0.949981			
	pa11	0.949135	0.932384	0.954676	0.947141			
	od01a	0.924303	0.931770	0.929206	0.947546			
	bi07	0.848297	0.934018	0.848868	0.948815			
	ti02f	0.817016	0.933233	0.804468	0.949510			
	pa10	0.791891	0.934924	0.803155	0.949530			
	od01b	0.878222	0.932359	0.891932	0.948137			
	ti02g	0.728221	0.935320	0.717152	0.950864			
	od01d	0.805427	0.934987	0.816709	0.949319			
	pa12	0.756598	0.934775	0.762903	0.950157			
	ti02e	0.755383	0.934657	0.744692	0.950439			
Cronbach Coefficient Alpha with Deleted Variable								
	Deleted Variable	Label						
	ti01g	EXTRANET SUPPORT INFRASTRUCTURE IMPLEMENTED						
	ti01f	DECISION SUPPORT SYSTEMS USED						
	pa11	FORMALISING THE KNOWLEDGE DEVELOPMENT CYCLE						
	od01a	KM DECENTRALISATION						
	bi07	WILLINGNESS TO SHARE KNOWLEDGE						
	ti02f	DECISION SUPPORT SYSTEMS USED TO SUPORT KM INITIATIVE						
	pa10	COMPONENT INTERACTION BETWEEN TECHNOLOGIES						
	od01b	KNOWLEDGE & INFORMATION SHARING						
	ti02g	EXTRANET SUPPORT INFRASTRUCTURE IMPLEMENTED FOR KM						
	od01d	INTER-LEVEL & INTERDEPARTMENTAL COMMUNICATION						
	pa12	OVERALL BUSINESS PERFORMANCE						
	ti02e	DATA WAREHOUSING AND DATA MINING USED TO SUPPORT KM INITIATIVE						

C.6 Groupware technologies used to support structural capital

The SAS System 15:02 Saturday, December 13, 2003 4				
The CORR Procedure				
Cronbach Coefficient Alpha with Deleted Variable				
Raw Variables		Standardized Variables		
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha
ti01c	0.760708	0.935447	0.768567	0.950069
od01f	0.751220	0.935754	0.762509	0.950163
ti01d	0.748866	0.935117	0.758037	0.950232
pa09	0.530624	0.938746	0.520634	0.953853
od01c	0.586388	0.937884	0.586966	0.952854
gd01c	0.674165	0.936602	0.695628	0.951196
bi17	-.457048	0.964530	-.451194	0.967471
Cronbach Coefficient Alpha with Deleted Variable				
Deleted Variable	Label			
ti01c	DOCUMENT MANAGEMENT SYSTEMS IN PLACE			
od01f	ALIGNMENT OF KM WITH ORGANISATIONAL GOALS			
ti01d	GROUPWARE TECHNOLOGIES USED			
pa09	NEW PRODUCTS AND SERVICE DEVELOPMENT			
od01c	OPENNESS			
gd01c	HIERARCHY BARRIERS SUPPRESSION			
bi17	THERE IS TOO MUCH KNOWLEDGE			

Factor 2 Code:

```

/*factor 2*/
proc corr data=test.pilot_survey_v06b nocorr nosimple alpha;
var ti01g ti01f pa11 od01a bi07 ti02f pa10 od01b ti02g od01d pa12 ti02e
ti01c od01f ti01d pa09 od01c gd01c bi17;run;

```

C.7 Formal networks for KM strategy

The SAS System 15:02 Saturday, December 13, 2003 5				
The CORR Procedure: Factor 3				
7 Variables: bi02e bi02g ti01b gd01h bi02f bi02h ti01a				
Cronbach Coefficient Alpha				
Variables		Alpha		
Raw		0.945132		
Standardized		0.943929		
Cronbach Coefficient Alpha with Deleted Variable				
Raw Variables		Standardized Variables		
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha
bi02e	0.916781	0.927488	0.915511	0.926013
bi02g	0.930734	0.926009	0.923928	0.925248
ti01b	0.664150	0.948605	0.668168	0.947611
gd01h	0.812347	0.936912	0.809260	0.935494
bi02f	0.913630	0.928213	0.908481	0.926650
bi02h	0.889798	0.930149	0.881990	0.929037
ti01a	0.597372	0.954195	0.600172	0.953262
Cronbach Coefficient Alpha with Deleted Variable				
Deleted Variable	Label			
bi02e	PLANNING JOB & PROCESS REDESIGN OF CORE PROCESSES			
bi02g	ESTABLISHING OF FORMAL NETWORKS			
ti01b	INTRANET INFRASTRUCTURE IMPLEMENTED IN ORGANISATION			
gd01h	COST			
bi02f	ESTABLISHING OF INFORMAL KM NETWORKS			
bi02h	PROVIDED INCENTIVES & REWARDS FOR KM			
ti01a	INTERNET ACCESS IMPLEMENTED IN ORGANISATION			

Factor 3 Code:

```

/*factor 3*/
proc corr data=test.pilot_survey_v06b nocorr nosimple alpha;
var bi02e bi02g ti01b gd01h bi02f bi02h ti01a;run;

```

C.8 Value of human capital

The SAS System 15:02 Saturday, December 13, 2003 6											
The CORR Procedure: Factor 4											
11 Variables: hk03 hk02 cs07 cs02 hk04 sk01b sk01a pa06 bi14 bi01 sk02e											
Cronbach Coefficient Alpha											
Variables					Alpha						
Raw					0.936513						
Standardized					0.947210						
Cronbach Coefficient Alpha with Deleted Variable											
Raw Variables					Standardized Variables						
Deleted Variable		Correlation with Total			Alpha		Correlation with Total			Alpha	
hk03		0.914856			0.921930		0.928058			0.935892	
hk02		0.811584			0.927024		0.820148			0.940097	
cs07		0.774640			0.931616		0.779124			0.941670	
cs02		0.669202			0.933735		0.683595			0.945279	
hk04		0.801680			0.927820		0.813309			0.940360	
sk01b		0.915167			0.922312		0.908104			0.936677	
sk01a		0.852056			0.925089		0.839449			0.939352	
pa06		0.669397			0.934175		0.680037			0.945412	
bi14		0.693637			0.934243		0.694982			0.944853	
bi01		0.743506			0.931010		0.741680			0.943094	
sk02e		0.548028			0.945956		0.534057			0.950782	
Cronbach Coefficient Alpha with Deleted Variable											
Deleted											
Variable		Label									
hk03		LOSS OF SIGNIFICANT INCOME									
hk02		DAMAGE TO KEY CLIENT/SUPPLIER RELATIONSHIP									
cs07		AWARENESS OF KM									
cs02		TRANSFORMS ORGANISATION'S BUSINESS									
hk04		LOSS OF VITAL INFORMATION									
sk01b		VALUE KNOWLEDGE ABOUT OWN MARKET									
sk01a		VALUE KNOWLEDGE ABOUT OWN CUSTOMERS									
pa06		SHARING BEST PRACTICE									
bi14		NO REWARDS FOR KNOWLEDGE SHARING									
bi01		STRATEGY IS IMPORTANT FOR KM INITIATIVE									
sk02e		STORE KNOWLEDGE ON EMPLOYEES SKILLS									

Factor 4 Code:

```

/*factor 4*/
proc corr data=test.pilot_survey_v06b nocorr nosimple alpha;
var hk03 hk02 cs07 cs02 hk04 sk01b sk01a pa06 bi14 bi01 sk02e;run;

```

C.9 Learning from KM initiatives

The SAS System					15:02 Saturday, December 13, 2003			7	
The CORR Procedure; Factor 5									
8	Variables:	sk02d	sk02c	id01c	id01b	ti02d	id01a	ti02b	gd01f
Cronbach Coefficient Alpha									
		Variables							Alpha
		Raw							0.903392
		Standardized							0.933088
Cronbach Coefficient Alpha with Deleted Variable									
Raw Variables				Standardized Variables					
Deleted	Correlation				Correlation				
Variable	with Total	Alpha	with Total	Alpha					
sk02d	0.741175	0.888891	0.728362	0.927042					
sk02c	0.646166	0.904086	0.602695	0.936049					
id01c	0.842558	0.888018	0.887429	0.915164					
id01b	0.842558	0.888018	0.887429	0.915164					
ti02d	0.775711	0.883427	0.764865	0.924364					
id01a	0.786841	0.890567	0.831146	0.919428					
ti02b	0.737166	0.888276	0.743925	0.925904					
gd01f	0.657872	0.897506	0.695922	0.929399					
Cronbach Coefficient Alpha with Deleted Variable									
Deleted									
Variable	Label								
sk02d	STORE KNOWLEDGE ON COMPETITORS' MARKETS								
sk02c	STORE KNOWLEDGE ON OWN PRODUCTS								
id01c	LEARNING								
id01b	COMMITMENT TO GROUP PROPOSALS								
ti02d	GROUPWARE TECHNOLOGIES USED TO SUPPORT KM INITIATIVE								
id01a	SATISFACTION								
ti02b	INTRANET INFRASTRUCTURE IMPLEMENTED FOR KM SUPPORT								
gd01f	INFORMATION ACCESS								

Factor 5 Code:

```

/*factor 5*/
proc corr data=test.pilot_survey_v06b nocorr nosimple alpha;
var sk02d sk02c id01c id01b ti02d id01a ti02b gd01f;run;

```

C.10 Effectiveness

The SAS System 15:02 Saturday, December 13, 2003 8					
The CORR Procedure					
3 Variables: gd01i gd01e pa07: Factor 6					
Cronbach Coefficient Alpha					
Variables		Alpha			
Raw		0.316967			
Standardized		0.459520			
Cronbach Coefficient Alpha with Deleted Variable					
Raw Variables			Standardized Variables		
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha	Label
gd01i	0.351040	-.041018	0.490992	-.048435	EFFECTIVENESS
gd01e	0.306554	0.060541	0.435587	0.068727	INDIVIDUAL INFLUENCE
pa07	0.007592	0.787328	0.006573	0.788262	BETTER STAFF ATTRACTION AND RETENTION

Factor 6 Code:

```

/*factor 6*/
proc corr data=test.pilot_survey_v06b nocorr nosimple alpha;
var gd01i gd01e pa07;run;

```

C.11 Benefits from setting up KM initiatives

The SAS System 15:02 Saturday, December 13, 2003 9				
The CORR Procedure : Factor 7				
3 Variables: pa01 sk02f pa03				
Cronbach Coefficient Alpha				
Variables		Alpha		
Raw		-.876178		
Standardized		-1.21147		
Cronbach Coefficient Alpha with Deleted Variable				
Raw Variables		Standardized Variables		
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha
pa01	-.471047	0.168889	-.516622	0.171820
sk02f	0.064895	-5.01549	0.060432	-5.03623
pa03	-.376713	-.098688	-.450706	-.101766
Cronbach Coefficient Alpha with Deleted Variable				
Deleted Variable	Label			
pa01	BENEFITS FROM SETTING UP KM INITIATIVES			
sk02f	STORE KNOWLEDGE ON RWGULATORY ENVIRONMENTS			
pa03	FASTER RESPONSE TIME TO KEY ISSUES			

Factor 7 Code:

```

/*factor 7*/
proc corr data=test.pilot_survey_v06b nocorr nosimple alpha;
var pa01 sk02f pa03;run;

```

Appendix D

Exploratory Factor Analyses

D.1 Goodness of fit indices, analysis of initial measurement model

The SAS System		13:22 Tuesday, December 30, 2003	8
The CALIS Procedure			
Covariance Structure Analysis: Maximum Likelihood Estimation			
Fit Function		0.5001	
Goodness of Fit Index (GFI)		0.8977	
GFI Adjusted for Degrees of Freedom (AGFI)		0.7954	
Root Mean Square Residual (RMR)		0.0128	
Parsimonious GFI (Mulaik, 1989)		0.5985	
Chi-Square		612.1560	
Chi-Square DF		14	
Pr > Chi-Square		<.0001	
Independence Model Chi-Square		4976.3	
Independence Model Chi-Square DF		21	
RMSEA Estimate		0.1868	
RMSEA 90% Lower Confidence Limit		0.1744	
RMSEA 90% Upper Confidence Limit		0.1996	
ECVI Estimate		0.5232	
ECVI 90% Lower Confidence Limit		0.4598	
ECVI 90% Upper Confidence Limit		0.5926	
Probability of Close Fit		0.0000	
Bentler's Comparative Fit Index		0.8793	
Elliptic Corrected Chi-Square		438.0695	
Pr > Elliptic Corrected Chi-Square		<.0001	
Normal Theory Reweighted LS Chi-Square		488.1557	
Akaike's Information Criterion		584.1560	
Bozdogan's (1987) CAIC		498.6063	
Schwarz's Bayesian Criterion		512.6063	
McDonald's (1989) Centrality		0.7834	
Bentler & Bonett's (1980) Non-normed Index		0.8189	
Bentler & Bonett's (1980) NFI		0.8770	
James, Mulaik, & Brett (1982) Parsimonious NFI		0.5847	
Z-Test of Wilson & Hilferty (1931)		20.1516	
Bollen (1986) Normed Index Rho1		0.8155	
Bollen (1988) Non-normed Index Delta2		0.8795	
Hoelter's (1983) Critical N		49	

D.2.1 Covariance structure for CI Factor

The SAS System		12:30 Thursday, January 1, 2004			43			
The CALIS Procedure								
Covariance Structure Analysis: Pattern and Initial Values								
LINEQS Model Statement								
	Matrix	Rows	Columns	-----Matrix Type-----				
Term 1	1 SEL	27	55	SELECTION				
	2 _BETA_	55	55	EQSBETA	IMINUSINV			
	3 _GAMMA_	55	28	EQSGAMMA				
	4 _PHI_	28	28	SYMMETRIC				
The 27 Endogenous Variables								
Manifest	bi11	bi10	cs06	pa02	pa05	bi02b	cs04	bi02d
	bi02a	gd01b	bi02c	bi03	bi13	bi05	od01e	gd01g
	bi06	sk01c	cs03	bi12	pa08	pa04	sk02g	bi08
	bi09	bi15	bi16					
Latent								
The 28 Exogenous Variables								
Manifest								
Latent	F1							
Error	e1	e2	e3	e4	e5	e6	e7	e8
	e9	e10	e11	e12	e13	e14	e15	e16
	e17	e18	e19	e20	e21	e22	e23	e24
	e25	e26	e27					

D 3.2 Covariance structure for CI Factor

The SAS System		12:30 Thursday, January 1, 2004		44
The CALIS Procedure				
Covariance Structure Analysis: Pattern and Initial Values				
Manifest Variable Equations with Initial Estimates				
bi11	=	.*F1	+	1.0000 e1
				bi11f1
bi10	=	.*F1	+	1.0000 e2
				bi10f1
cs06	=	.*F1	+	1.0000 e3
				cs06f1
pa02	=	.*F1	+	1.0000 e4
				pa02f1
pa05	=	.*F1	+	1.0000 e5
				pa05f1
bi02b	=	.*F1	+	1.0000 e6
				bi02bf1
cs04	=	.*F1	+	1.0000 e7
				cs04f1
bi02d	=	.*F1	+	1.0000 e8
				bi02df1
bi02a	=	.*F1	+	1.0000 e9
				bi02af1
gd01b	=	.*F1	+	1.0000 e10
				gd01bf1
bi02c	=	.*F1	+	1.0000 e11
				bi02cf1
bi03	=	.*F1	+	1.0000 e12
				bi03f1
bi13	=	.*F1	+	1.0000 e13
				bi13f1
bi05	=	.*F1	+	1.0000 e14
				bi05f1
od01e	=	.*F1	+	1.0000 e15
				od01ef1
gd01g	=	.*F1	+	1.0000 e16
				gd01gf1
bi06	=	.*F1	+	1.0000 e17
				bi06f1
sk01c	=	.*F1	+	1.0000 e18
				sk01cf1
cs03	=	.*F1	+	1.0000 e19
				cs03f1
bi12	=	.*F1	+	1.0000 e20
				bi12f1
pa08	=	.*F1	+	1.0000 e21
				pa08f1
pa04	=	.*F1	+	1.0000 e22
				pa04f1
sk02g	=	.*F1	+	1.0000 e23
				sk02gf1
bi08	=	.*F1	+	1.0000 e24
				bi08f1
bi09	=	.*F1	+	1.0000 e25
				bi09f1
bi15	=	.*F1	+	1.0000 e26
				bi15f1
bi16	=	.*F1	+	1.0000 e27
				bi16f1

D.4.3 Covariance structure for CI Factor

Variances of Exogenous Variables		
Variable	Parameter	Estimate
F1		1.00000
e1	vare1	.
e2	vare2	.
e3	vare3	.
e4	vare4	.
e5	vare5	.
e6	vare6	.
e7	vare7	.
e8	vare8	.
e9	vare9	.
e10	vare10	.
e11	vare11	.
e12	vare12	.
e13	vare13	.
e14	vare14	.
e15	vare15	.
e16	vare16	.
e17	vare17	.
e18	vare18	.
e19	vare19	.
e20	vare20	.
e21	vare21	.
e22	vare22	.
e23	vare23	.
e24	vare24	.
e25	vare25	.
e26	vare26	.
e27	vare27	.

D.5.4 Covariance structure for CI Factor

- Covariance Structure Analysis: Maximum Likelihood Estimation				
	Observations	1225	Model Terms	1
	Variables	27	Model Matrices	4
	Informations	378	Parameters	54
Variable		Mean	Std Dev	Skewness
cs04	NO KNOWLEDGE OF KM	4.74694	0.56270	-2.84739
bi02d	DEVELOPING & MEASURING INTELLECTUAL CAPITAL	4.61143	0.75896	-2.08202
bi02a	CURRENT STATE OF KM INITIATIVE	4.71102	0.62733	-1.97827
gd01b	PROCESS ADOPTION	4.64735	0.64528	-2.08655
bi02c	PLANNING BECHMARKING & AUDIT EXERCISE	4.43592	0.69028	-1.20962
bi03	KM STRATEGY ENHANCED VALUE-ADDED SERVICES	4.05469	0.66748	-1.77948
bi13	INDIVIDUALS DON'T HAVE TIME TO SHARE INFORMATION	4.82204	0.43462	-2.42879
bi05	DEDICATED KM ROLE	4.55020	0.67831	-1.61416
od01e	MANAGEMENT SUPPORT TO KM DECENTRALISATION	4.56653	0.65855	-1.68174
gd01g	DURATION	4.46286	0.76620	-1.52866
bi06	IMPORTANCE OF DEDICATED BUDGET	4.65633	0.59430	-1.53428
sk01c	VALUE KNOWLEDGE ABOUT OWN PRODUCTS/SERVICES	4.37388	0.82186	-1.01617
pa08	REVENUE GROWTH	4.64245	1.02716	-2.70844
pa04	IMPROVING PRODUCTIVITY	4.72408	0.44716	-1.00389
sk02g	STORE KNOWLEDGE ON METHODS AND PROCESSES	3.92898	0.60284	-0.55202
bi08	EMPLOYEES LEARN FROM EACH OTHER	4.52490	0.76135	-2.32045
bi09	CULTURE DOES NOT ENCOURAGE KNOWLEDGE SHARING	4.57714	0.95099	-2.39120
bi15	KNOWLEDGE IS DIFFICULT TO LOCATE	1.19592	0.49258	2.
bi16	INDIVIDUALS DO NOT SHARE BEST PRACTICE	1.25959	0.69982	3.69068

D.6.5 Covariance structure for CI Factor

	Variable	Kurtosis
bi11	LACK OF UNDERSTANDING OF KM INITIATIVES	10.80782
bi10	LACK OF FUNDING FOR KM INITIATIVES	10.80782
cs06	KM INITIATIVE NOT IN PLACE	2.58585
pa02	BETTER DECISION MAKING	16.20018
pa05	CREATING NEW/ADDITIONAL BUSINESS OPPORTUNITIES	7.54578
bi02b	KM STRATEGY IS BEING CREATED	2.96822
cs04	NO KNOWLEDGE OF KM	9.73984
bi02d	DEVELOPING & MEASURING INTELLECTUAL CAPITAL	3.69004
bi02a	CURRENT STATE OF KM INITIATIVE	2.42193
gd01b	PROCESS ADOPTION	4.62792
bi02c	PLANNING BECHMARKING & AUDIT EXERCISE	1.57267
bi03	KM STRATEGY ENHANCED VALUE-ADDED SERVICES	7.55057
bi13	INDIVIDUALS DON'T HAVE TIME TO SHARE INFORMATION	5.35427
bi05	DEDICATED KM ROLE	2.67692
od01e	MANAGEMENT SUPPORT TO KM DECENTRALISATION	3.18089
gd01g	DURATION	2.07340
pa04	IMPROVING PRODUCTIVITY	-0.99384
sk02g	STORE KNOWLEDGE ON METHODS AND PROCESSES	1.39089
bi08	EMPLOYEES LEARN FROM EACH OTHER	7.27634
bi09	CULTURE DOES NOT ENCOURAGE KNOWLEDGE SHARING	4.75046
bi15	KNOWLEDGE IS DIFFICULT TO LOCATE	5.48899
bi16	INDIVIDUALS DO NOT SHARE BEST PRACTICE	15.41178
	Mardia's Multivariate Kurtosis	.
	Relative Multivariate Kurtosis	.
	Normalized Multivariate Kurtosis	.
	Mardia Based Kappa (Browne, 1982)	.
	Mean Scaled Univariate Kurtosis	1.8007
	Adjusted Mean Scaled Univariate Kurtosis	1.8104

D.7 Communalities

	Initial	Extraction
Communalities 1		
ORGANISE INFORMATION	1.000	.944
TRANSFORMS ORGANISATION'S BUSINESS	1.000	.928
BEING DONE BUT HAS NO NAME	1.000	.812
NO KNOWLEDGE OF KM	1.000	.891
KM IS JUST A MANAGEMNT FAD	1.000	.947
KM INITIATIVE NOT IN PLACE	1.000	.942
AWARENESS OF KM	1.000	.901
LOST OF BEST PRACTICE IN SPECIFIC AREA	1.000	.965
DAMAGE TO KEY CLIENT/SUPPLIER RELATIONSHIP	1.000	.970
LOSS OF SIGNIFICANT INCOME	1.000	.982
LOSS OF VITAL INFORMATION	1.000	.922
EMPLOYEES PROVIDED WITH RESOURCES	1.000	.935
VALUE KNOWLEDGE ABOUT OWN CUSTOMERS	1.000	.973
VALUE KNOWLEDGE ABOUT OWN MARKET	1.000	.968
VALUE KNOWLEDGE ABOUT OWN PRODUCTS/SERVICES	1.000	.912
VALUE KNOWLEDGE ABOUT COMPETITORS' MARKETS	1.000	.900
VALUE KNOWLEDGE ON EMPLOYEES SKILLS	1.000	.918
VALUE KNOWLEDGE ON REGULATORY ENVIRONMENTS	1.000	.908
VALUE KNOWLEDGE ON METHODS & PROCESSES	1.000	.942
STORE KNOWLEDGE ON CUSTOMERS	1.000	.986
STORE KNOWLEDGE ON OWN MARKETS	1.000	.986
STORE KNOWLEDGE ON OWN PRODUCTS	1.000	.986
STORE KNOWLEDGE ON COMPETITORS' MARKETS	1.000	.972
STORE KNOWLEDGE ON EMPLOYEES SKILLS	1.000	.982
STORE KNOWLEDGE ON RWGULATORY ENVIRONMENTS	1.000	.907
STORE KNOWLEDGE ON METHODS AND PROCESSES	1.000	.809
INTERNET ACCESS IMPLEMENTED IN ORGANISATION	1.000	.818
INTRANET INFRSATRUCTURE IMPLEMENTED IN ORGANISATION	1.000	.895
DOCUMENT MANAGEMENT SYSTEMS IN PLACE	1.000	.967
GROUPWARE TECHNOLOGIES USED	1.000	.861
DATA WAREHOUSING AND DATA MINING USED	1.000	.889
DECISION SUPPORT SYSTEMS USED	1.000	.902
EXTRANET SUPPORT INFRASTRUCTURE IMPLEMENTED	1.000	.921

	Initial	Extraction
Communalities - 2		
INTERNET ACCESS FOR KM SUPPORT	1.000	.943
INTRANET INFRASTRUCTURE IMPLEMENTED FOR KM SUPPORT	1.000	.821
DOCUMENT MANAGEMENT SYSTEMS IMPLEMENTED FOR KM SUPPORT	1.000	.908
GROUPWARE TECHNOLOGIES USED TO SUPPORT KM INITIATIVE	1.000	.903
DATA WAREHOUSING AND DATA MINING USED TO SUPPORT KM INITIATIVE	1.000	.908
DECISION SUPPORT SYSTEMS USED TO SUPPORT KM INITIATIVE	1.000	.921
EXTRANET SUPPORT INFRASTRUCTURE IMPLEMENTED FOR KM	1.000	.927
STRATEGY IS IMPORTANT FOR KM INITIATIVE	1.000	.917
CURRENT STATE OF KM INITIATIVE	1.000	.935
KM STRATEGY IS BEING CREATED	1.000	.959
PLANNING BECHMARKING & AUDIT EXERCISE	1.000	.973
DEVELOPING & MEASURING INTELLECTUAL CAPITAL	1.000	.955
PLANNING JOB & PROCESS REDESIGN OF CORE PROCESSES	1.000	.969
ESTABLISHING OF INFORMAL KM NETWORKS	1.000	.990
ESTABLISHING OF FORMAL NETWORKS	1.000	.990
PROVIDED INCENTIVES & REWARDS FOR KM	1.000	.944
KM STRATEGY ENHANCED VALUE-ADDED SERVICES	1.000	.953
KM STRATEGY RESULTED IN PROBLEM SOLVING TIME	1.000	.923
DEDICATED KM ROLE	1.000	.894
IMPORTANCE OF DEDICATED BUDGET	1.000	.954
WILLINGNESS TO SHARE KNOWLEDGE	1.000	.854
EMPLOYEES LEARN FROM EACH OTHER	1.000	.638
CULTURE DOES NOT ENCOURAGE KNOWLEDGE SHARING	1.000	.652
LACK OF FUNDING FOR KM INITIATIVES	1.000	.991
LACK OF UNDERSTANDING OF KM INITIATIVES	1.000	.991
LACK OF APPROPRIATE TECHNOLOGY	1.000	.982
INDIVIDUALS DON'T HAVE TIME TO SHARE INFORMATION	1.000	.972
NO REWARDS FOR KNOWLEDGE SHARING	1.000	.923
KNOWLEDGE IS DIFFICULT TO LOCATE	1.000	.969
INDIVIDUALS DO NOT SHARE BEST PRACTICE	1.000	.988
THERE IS TOO MUCH KNOWLEDGE	1.000	.805
MUCH IMPETUS FROM OUTSIDE	1.000	.852
BENEFITS FROM SETTING UP KM INITIATIVES	1.000	.874

	Initial	Extraction
Communalities - 3		
BETTER DECISION MAKING	1.000	.911
FASTER RESPONSE TIME TO KEY ISSUES	1.000	.827
IMPROVING PRODUCTIVITY	1.000	.894
CREATING NEW/ADDITIONAL BUSINESS OPPORTUNITIES	1.000	.907
SHARING BEST PRACTICE	1.000	.853
BETTER STAFF ATTRACTION AND RETENTION	1.000	.885
REVENUE GROWTH	1.000	.911
NEW PRODUCTS AND SERVICE DEVELOPMENT	1.000	.888
COMPONENT INTERACTION BETWEEN TECHNOLOGIES	1.000	.927
FORMALISING THE KNOWLEDGE DEVELOPMENT CYCLE	1.000	.971
OVERALL BUSINESS PERFORMANCE	1.000	.715
KM DECENTRALISATION	1.000	.974
KNOWLEDGE & INFORMATION SHARING	1.000	.974
OPENNESS	1.000	.735
INTER-LEVEL & INTERDEPARTMENTAL COMMUNICATION	1.000	.915
MANAGEMENT SUPPORT TO KM DECENTRALISATION	1.000	.952
ALIGNMENT OF KM WITH ORGANISATIONAL GOALS	1.000	.833
REUSE OF PREVIOUS KM INFORMATION	1.000	.963
PROCESS ADOPTION	1.000	.968
HIERARCHY BARRIERS SUPPRESSION	1.000	.908
DEPARTMENTAL HETERGENEITY	1.000	.873
INDIVIDUAL INFLUENCE	1.000	.750
INFORMATION ACCESS	1.000	.856
DURATION	1.000	.925
COST	1.000	.946
EFFECTIVENESS	1.000	.838
SATISFACTION	1.000	.919
COMMITMENT TO GROUP PROPOSALS	1.000	.922
LEARNING	1.000	.922

Extraction Method: Principal Component Analysis.

D.8 Total variance explained

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	42.721	44.969	44.969	42.721	44.969	44.969	18.520	19.495	19.495
2	9.306	9.796	54.765	9.306	9.796	54.765	14.796	15.575	35.070
3	8.177	8.607	63.372	8.177	8.607	63.372	14.691	15.464	50.533
4	5.864	6.173	69.545	5.864	6.173	69.545	12.657	13.323	63.856
5	4.048	4.261	73.807	4.048	4.261	73.807	5.667	5.966	69.822
6	3.081	3.243	77.050	3.081	3.243	77.050	3.092	3.254	73.076
7	2.862	3.013	80.062	2.862	3.013	80.062	2.856	3.006	76.083
8	2.197	2.313	82.376	2.197	2.313	82.376	2.769	2.914	78.997
9	1.864	1.962	84.337	1.864	1.962	84.337	2.386	2.512	81.509
10	1.649	1.736	86.073	1.649	1.736	86.073	2.064	2.173	83.682
11	1.417	1.492	87.565	1.417	1.492	87.565	1.917	2.018	85.700
12	1.255	1.321	88.886	1.255	1.321	88.886	1.899	1.999	87.699
13	1.117	1.175	90.061	1.117	1.175	90.061	1.785	1.879	89.578
14	1.027	1.081	91.142	1.027	1.081	91.142	1.486	1.564	91.142
15	.919	.968	92.110						
16	.823	.866	92.976						
17	.728	.766	93.742						
18	.643	.677	94.419						
19	.581	.611	95.030						
20	.528	.556	95.586						
21	.479	.504	96.091						
22	.460	.484	96.575						
23	.382	.402	96.977						
24	.367	.387	97.364						
25	.325	.342	97.706						
26	.294	.309	98.016						
27	.248	.261	98.277						
28	.237	.249	98.526						
29	.194	.204	98.730						
30	.180	.189	98.919						
31	.171	.180	99.099						
32	.121	.128	99.226						

Total Variance Explained-2			
Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
33	.104	.110	99.336
34	.101	.106	99.442
35	.091	.096	99.537
36	.083	.088	99.625
37	.071	.075	99.700
38	.068	.071	99.771
39	.054	.056	99.827
40	.045	.047	99.875
41	.037	.039	99.914
42	.030	.032	99.945
43	.023	.024	99.970
44	.017	.018	99.988
45	.012	.012	100.000
46	.000	.000	100.000
47	.000	.000	100.000
48	.000	.000	100.000
49	.000	.000	100.000
50	.000	.000	100.000
51	.000	.000	100.000
52	.000	.000	100.000
53	.000	.000	100.000
54	.000	.000	100.000
55	.000	.000	100.000
56	.000	.000	100.000
57	.000	.000	100.000
58	.000	.000	100.000
59	.000	.000	100.000
60	.000	.000	100.000
61	.000	.000	100.000
62	.000	.000	100.000
63	.000	.000	100.000
64	.000	.000	100.000
65	.000	.000	100.000
66	.000	.000	100.000

Total Variance Explained-2			
Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
67	.000	.000	100.000
68	.000	.000	100.000
69	.000	.000	100.000
70	.000	.000	100.000
71	.000	.000	100.000
72	.000	.000	100.000
73	.000	.000	100.000
74	.000	.000	100.000
75	.000	.000	100.000
76	.000	.000	100.000
77	.000	.000	100.000
78	.000	.000	100.000
79	.000	.000	100.000
80	.000	.000	100.000
81	.000	.000	100.000
82	.000	.000	100.000
83	.000	.000	100.000
84	.000	.000	100.000
85	.000	.000	100.000
86	.000	.000	100.000
87	.000	.000	100.000
88	.000	.000	100.000
89	.000	.000	100.000
90	.000	.000	100.000
91	.000	.000	100.000
92	.000	.000	100.000
93	.000	.000	100.000
94	.000	.000	100.000
95	.000	.000	100.000

D.9 Component Matrix

	Component - 1													
Component	1	2	3	4	5	6	7	8	9	10	11	12	13	14
VALUE KNOWLEDGE ON REGULATORY ENVIRONMENTS	.885													
KM STRATEGY IS BEING CREATED	.865						-.301							
PROCESS ADOPTION	.862				-.306									
CURRENT STATE OF KM INITIATIVE	.856						-.305							
INTERNET ACCESS FOR KM SUPPORT	.852													
VALUE KNOWLEDGE ABOUT OWN PRODUCTS/SERVICES	.851													
MANAGEMENT SUPPORT TO KM DECENTRALISATION	.837													
IMPORTANCE OF DEDICATED BUDGET	.831													
DEVELOPING & MEASURING INTELLECTUAL CAPITAL	.825													
STORE KNOWLEDGE ON EMPLOYEES SKILLS	.820						.350							

(Extraction Method: Principal Component Analysis. a 14 components extracted.)

Component - 2														
Component	1	2	3	4	5	6	7	8	9	10	11	12	13	14
INTRANET INFRASTRUCTURE IMPLEMENTED FOR KM SUPPORT	.815													
INDIVIDUALS DON'T HAVE TIME TO SHARE INFORMATION	.810						-.439							
VALUE KNOWLEDGE ON EMPLOYEES SKILLS	.808	.364												
LACK OF APPROPRIATE TECHNOLOGY	.805					-.447								
KNOWLEDGE IS DIFFICULT TO LOCATE	-.801													
DOCUMENT MANAGEMENT SYSTEMS IN PLACE	.789	-.356			.319									
VALUE KNOWLEDGE ON METHODS & PROCESSES	.789	.482												
GROUPWARE TECHNOLOGIES USED TO SUPPORT KM INITIATIVE	.784						.314							
DURATION	.783			-.305										
LACK OF UNDERSTANDING OF KM INITIATIVES	.778	-.499												

Component - 3														
Component	1	2	3	4	5	6	7	8	9	10	11	12	13	14
LACK OF FUNDING FOR KM INITIATIVES	.778	-.499												
DEDICATED KM ROLE	.772													
INDIVIDUALS DO NOT SHARE BEST PRACTICE	-.767	.504												
KM DECENTRALISATION	.766	-.420	.382											
KM STRATEGY RESULTED IN PROBLEM SOLVING TIME	.765				.358									
ESTABLISHING OF INFORMAL KM NETWORKS	.764		-.493											
FORMALISING THE KNOWLEDGE DEVELOPMENT CYCLE	.762		.501											
ESTABLISHING OF FORMAL NETWORKS	.761		-.447	-.307	.304									
LEARNING	.758	.414												
COMMITMENT TO GROUP PROPOSALS	.758	.414												
KNOWLEDGE & INFORMATION SHARING	.753	-.510												
VALUE KNOWLEDGE ABOUT OWN MARKET	.744	.442	.351											

Component - 4														
Component	1	2	3	4	5	6	7	8	9	10	11	12	13	14
HIERARCHY BARRIERS SUPPRESSION	.741													
VALUE KNOWLEDGE ABOUT OWN CUSTOMERS	.741	.554												
STRATEGY IS IMPORTANT FOR KM INITIATIVE	.735	.320												
ALIGNMENT OF KM WITH ORGANISATIONAL GOALS	.732		.377											
PLANNING BECHMARKING & AUDIT EXERCISE	.731		-.471											
KM STRATEGY ENHANCED VALUE-ADDED SERVICES	.730	-.504												
DOCUMENT MANAGEMENT SYSTEMS IMPLEMENTED FOR KM SUPPORT	.727	.499												
SATISFACTION	.723	.393												
PROVIDED INCENTIVES & REWARDS FOR KM	.717		-.374	-.325	.333									
CREATING NEW/ADDITIONAL BUSINESS OPPORTUNITIES	.712	-.312	-.420											

Component - 5														
Component	1	2	3	4	5	6	7	8	9	10	11	12	13	14
WILLINGNESS TO SHARE KNOWLEDGE	.708		.479											
PROVIDED INCENTIVES & REWARDS FOR KM	.717		-.374	-.325	.333									
CREATING NEW/ADDITIONAL BUSINESS OPPORTUNITIES	.712	-.312	-.420											
WILLINGNESS TO SHARE KNOWLEDGE	.708		.479											
INTER-LEVEL & INTERDEPARTMENTAL COMMUNICATION	.708		.510											
DATA WAREHOUSING AND DATA MINING USED TO SUPPORT KM INITIATIVE	.708		.311				.309		.348					
REUSE OF PREVIOUS KM INFORMATION	.705		-.471			.323								
COST	.697			-.457										
Store knowledge on customers	.695				-.359			.304						
STORE KNOWLEDGE ON OWN PRODUCTS	.695				-.359			.304						
STORE KNOWLEDGE ON OWN MARKETS	.695				-.359			.304						

Component - 6														
Component	1	2	3	4	5	6	7	8	9	10	11	12	13	14
IMPROVING PRODUCTIVITY	.687											.377		
VALUE KNOWLEDGE ABOUT COMPETITORS' MARKETS	.673	.454												
GROUPWARE TECHNOLOGIES USED	.666	-.433												
EMPLOYEES PROVIDED WITH RESOURCES	.663	.532												
DECISION SUPPORT SYSTEMS USED TO SUPORT KM INITIATIVE	.656		.511											
LOSS OF SIGNIFICANT INCOME	.655	.455		.448										
NO REWARDS FOR KNOWLEDGE SHARING	.650						-.464							
PLANNING JOB & PROCESS REDESIGN OF CORE PROCESSES	.633			-.541										
OVERALL BUSINESS PERFORMANCE	.629		.336											
DATA WAREHOUSING AND DATA MINING USED	.627		.304	-.322	.324									
SHARING BEST PRACTICE	.624				.339					.354				
EFFECTIVENESS	.623		.356											

Component - 7														
Component	1	2	3	4	5	6	7	8	9	10	11	12	13	14
DEPARTMENTAL HETERGEANEITY	.586		.329	-.361										
LOSS OF VITAL INFORMATION	.583	.394	.406	.333										
INTRANET INFRSATRUCTURE IMPLEMENTED IN ORGANISATION	.569	.374		-.359		.320								
STORE KNOWLEDGE ON METHODS AND PROCESSES	.567							.465						
KM INITIATIVE NOT IN PLACE	.567			.357					.413					
BENEFITS FROM SETTING UP KM INITIATIVES	.558			-.413		-.410								
INFORMATION ACCESS	.558	.487												
COMPONENT INTERACTION BETWEEN TECHNOLOGIES	.557	-.307	.505			.307								
INDIVIDUAL INFLUENCE	.550	.329				.304								
STORE KNOWLEDGE ON COMPETITORS' MARKETS	.542	.490	-.302					.354						

Component - 8														
Component	1	2	3	4	5	6	7	8	9	10	11	12	13	14
MUCH IMPETUS FROM OUTSIDE	.540	.339	.364											
DAMAGE TO KEY CLIENT/SUPPLIER RELATIONSHIP	.533	.457	.308	.527										
CULTURE DOES NOT ENCOURAGE KNOWLEDGE SHARING	.518													
EMPLOYEES LEARN FROM EACH OTHER	.514							-.323			-.303			
TRANSFORMS ORGANISATION'S BUSINESS	.472		.457	.426	.438									
THERE IS TOO MUCH KNOWLEDGE	-.465				-.342				.303					
BETTER DECISION MAKING	.524	-.733												
LOST OF BEST PRACTICE IN SPECIFIC AREA	.547	.579		.497										
DECISION SUPPORT SYSTEMS USED	.504	-.562	.513											
KM IS JUST A MANAGEMNT FAD			.721	.383		-.322								

Component - 9														
Component	1	2	3	4	5	6	7	8	9	10	11	12	13	14
EXTRANET SUPPORT INFRASTRUCTURE IMPLEMENTED	.542		.623											
EXTRANET SUPPORT INFRASTRUCTURE IMPLEMENTED FOR KM	.525		.569					.396						
OPENNESS	.416		.522		-.345									
NO KNOWLEDGE OF KM	.396	-.361	-.371	.591										
ORGANISE INFORMATION	.547			.587										
AWARENESS OF KM	.519	.455		.535										
FASTER RESPONSE TIME TO KEY ISSUES	-.408			.512		.390				-.312				
REVENUE GROWTH	.344	-.383		.395									-.393	
BETTER STAFF ATTRACTION AND RETENTION	.394		-.361		.510		.386							
NEW PRODUCTS AND SERVICE DEVELOPMENT	.384					.526					.308			
BEING DONE BUT HAS NO NAME	.399		-.301						.550					
STORE KNOWLEDGE ON RWGULATORY ENVIRONMENTS						.372			-.321	.710				
INTERNET ACCESS IMPLEMENTED IN ORGANISATION	.345	.415	-.422							-.434				

D.10 Rotated Component Matrix (a)

Variables	Component - 1													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
INDIVIDUALS DO NOT SHARE BEST PRACTICE	-.923													
LACK OF UNDERSTANDING OF KM INITIATIVES	.875	.305												
LACK OF FUNDING FOR KM INITIATIVES	.875	.305												
KNOWLEDGE IS DIFFICULT TO LOCATE	-.801											-.337		
BETTER DECISION MAKING	.784	.405	-.317											
DEVELOPING & MEASURING INTELLECTUAL CAPITAL	.758													
KM STRATEGY IS BEING CREATED	.754		.313											
CREATING NEW/ADDITIONAL BUSINESS OPPORTUNITIES	.737			.323				.326						

Variables	Component - 2													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
CURRENT STATE OF KM INITIATIVE	.730		.353											
DEDICATED KM ROLE	.722													
NO KNOWLEDGE OF KM	.712							.334						
PLANNING BECHMARKING & AUDIT EXERCISE	.703			.599										
IMPORTANCE OF DEDICATED BUDGET	.696		.374											
DURATION	.686			.565										
MANAGEMENT SUPPORT TO KM DECENTRALISATION	.658	.450												
INDIVIDUALS DON'T HAVE TIME TO SHARE INFORMATION	.647		.494									.326		
KM STRATEGY ENHANCED VALUE-ADDED SERVICES	.643	.425		.322										
VALUE KNOWLEDGE ABOUT OWN PRODUCTS/SERVICES	.618		.540											

Variables	Component- 3													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
LACK OF APPROPRIATE TECHNOLOGY	.595			.395		.362						.308		
ORGANISE INFORMATION	.503	.326	.489											
EMPLOYEES LEARN FROM EACH OTHER	.456		.402											
CULTURE DOES NOT ENCOURAGE KNOWLEDGE SHARING	.366			.340								.364		
FORMALISING THE KNOWLEDGE DEVELOPMENT CYCLE	.345	.868												
COMPONENT INTERACTION BETWEEN TECHNOLOGIES		.820				-.324								
KM DECENTRALISATION	.481	.814												
EXTRANET SUPPORT INFRASTRUCTURE IMPLEMENTED		.800												
DECISION SUPPORT SYSTEMS USED	.352	.783												
KNOWLEDGE & INFORMATION SHARING	.573	.771												

Variables	Component-4													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
WILLINGNESS TO SHARE KNOWLEDGE	.331	.753												
DECISION SUPPORT SYSTEMS USED TO SUPPORT KM INITIATIVE		.749												
INTER-LEVEL & INTERDEPARTMENTAL COMMUNICATION		.746	.371											
OVERALL BUSINESS PERFORMANCE	.318	.713												
ALIGNMENT OF KM WITH ORGANISATIONAL GOALS		.685	.355											
EXTRANET SUPPORT INFRASTRUCTURE IMPLEMENTED FOR KM		.675				.584								
OPENNESS		.652												
DATA WAREHOUSING AND DATA MINING USED TO SUPPORT KM INITIATIVE		.635		.307	.339									
GROUPWARE TECHNOLOGIES USED	.542	.608												

Variables	Component - 5													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
HIERARCHY BARRIERS SUPPRESSION	.396	.592		.432										
DOCUMENT MANAGEMENT SYSTEMS IN PLACE	.513	.583		.439										
EFFECTIVENESS		.537	.461											
VALUE KNOWLEDGE ON REGULATORY ENVIRONMENTS	.447	.493	.331	.414	.337									
LOSS OF SIGNIFICANT INCOME			.915											
DAMAGE TO KEY CLIENT/SUPPLIER RELATIONSHIP			.897											
LOST OF BEST PRACTICE IN SPECIFIC AREA			.885											
LOSS OF VITAL INFORMATION		.342	.836											
EMPLOYEES PROVIDED WITH RESOURCES			.818											
VALUE KNOWLEDGE ABOUT OWN MARKET		.408	.810											
AWARENESS OF KM			.809						.302					

Variables	Component - 6													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
VALUE KNOWLEDGE ABOUT OWN CUSTOMERS			.786	.359										
VALUE KNOWLEDGE ON EMPLOYEES SKILLS		.401	.705	.321										
TRANSFORMS ORGANISATION'S BUSINESS			.651			.492								
VALUE KNOWLEDGE ON METHODS & PROCESSES			.645	.462	.394									
DOCUMENT MANAGEMENT SYSTEMS IMPLEMENTED FOR KM SUPPORT			.591	.582										
SATISFACTION		.318	.546	.413										
STRATEGY IS IMPORTANT FOR KM INITIATIVE	.312		.538	.411				-.339						
SHARING BEST PRACTICE			.507									.406		
INTRANET INFRASTRUCTURE IMPLEMENTED FOR KM SUPPORT	.332	.392	.506	.387										

Variables	Component – 7													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
INDIVIDUAL INFLUENCE		.379	.398	.360		-.349								
PLANNING JOB & PROCESS REDESIGN OF CORE PROCESSES				.910										
COST				.770										
ESTABLISHING OF FORMAL NETWORKS	.542			.757										
ESTABLISHING OF INFORMAL KM NETWORKS	.553			.745										
INTRANET INFRASTRUCTURE IMPLEMENTED IN ORGANISATION				.740					.372					
PROVIDED INCENTIVES & REWARDS FOR KM	.520			.719										
REUSE OF PREVIOUS KM INFORMATION	.488			.636							.303			
INTERNET ACCESS IMPLEMENTED IN ORGANISATION				.636									-.387	

Variables	Component – 8													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
DATA WAREHOUSING AND DATA MINING USED		.472		.592						.367				
VALUE KNOWLEDGE ABOUT COMPETITORS' MARKETS		.315	.577	.585										
INTERNET ACCESS FOR KM SUPPORT	.419		.476	.569	.314									
DEPARTMENTAL HETERGEANEITY		.527		.568										
KM STRATEGY RESULTED IN PROBLEM SOLVING TIME	.358	.475		.552										
LEARNING			.513	.520										
COMMITMENT TO GROUP PROPOSALS			.513	.520										
INFORMATION ACCESS			.452	.518		-.412								
Store knowledge on customers	.535				.776									
STORE KNOWLEDGE ON OWN PRODUCTS	.535				.776									
STORE KNOWLEDGE ON OWN MARKETS	.535				.776									

Variables	Component - 9													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STORE KNOWLEDGE ON COMPETITORS' MARKETS			.378	.487	.729									
STORE KNOWLEDGE ON METHODS AND PROCESSES	.303				.694									
STORE KNOWLEDGE ON EMPLOYEES SKILLS	.461		.326		.661									
GROUPWARE TECHNOLOGIES USED TO SUPPORT KM INITIATIVE		.407		.445	.462									
KM IS JUST A MANAGEMNT FAD		.446		-.358		.624								
FASTER RESPONSE TIME TO KEY ISSUES		-.388		-.337			-.727							
BENEFITS FROM SETTING UP KM INITIATIVES	.372	.356		.307			.689							
BETTER STAFF ATTRACTION AND RETENTION			.311					.755						
BEING DONE BUT HAS NO NAME	.463								.745					

Variables	Component - 10													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
KM INITIATIVE NOT IN PLACE	.632								.671					
THERE IS TOO MUCH KNOWLEDGE		-.321						-.360		-.575				
MUCH IMPETUS FROM OUTSIDE		.399	.410	.431						.505				
NEW PRODUCTS AND SERVICE DEVELOPMENT		.478									.738			
REVENUE GROWTH	.425							.496			.593			
NO REWARDS FOR KNOWLEDGE SHARING	.363		.545									.563		
STORE KNOWLEDGE ON REGULATORY ENVIRONMENTS													.915	
IMPROVING PRODUCTIVITY	.424		.358											.627

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
 a. Rotation converged in 44 iterations.

D.7 Factor analysis Codes

D.7.1 SAS code for factor scores

```
Data Temp; Set dat.pilot_survey_v06b;
s1=mean(Of bi11 bi10 cs06 pa02 pa05 bi02b cs04 bi02d bi02a gd01b bi02c bi03
    bi13 bi05 od01e gd01g bi06 sk01c cs03 bi12 pa08 pa04 sk02g bi08 bi09
    bi15 bi16);
s2=mean(Of ti01g ti01f pa11 od01a bi07 ti02f pa10 od01b ti02g od01d pa12
    ti02e ti01c od01f ti01d pa09 od01c gd01c bi17);
s3=mean(Of bi02e bi02g ti01b gd01h bi02f bi02h ti01a);
s4=mean(Of hk03 hk02 cs07 cs02 hk04 sk01b sk01a pa06 bi14 bi01 sk02e);
s5=mean(Of sk02d sk02c id01c id01b ti02d id01a ti02b gd01f);
s6=mean(Of gd01i gd01e pa07);
s7=mean(Of pa01 sk02f pa03);
Keep s1 s2 s3 s4 s5 s6 s7;
Run;
```

D.7.2 Proc Calis SAS code for the CFA

```
proc calis data=Temp cov stderr all kurtosis modification residual;
    lineqs
    S1 = ps1f1 F1 + e1,
    S2 = ps2f1 F1 + e2,
    S3 = ps3f1 F1 + e3,
    S4 = ps4f1 F1 + e4,
    S5 = ps5f1 F1 + e5,
    S6 = ps6f1 F1 + e6,
    S7 = ps7f1 F1 + e7;
    std
    E1-E7 = vare1-vare7,
    F1 = 1;
    var S1-S7;run;
```

D.7.3 Proc Calis SAS code for the CI factor

```
proc calis data=Temp cov stderr all kurtosis modification residual;
  lineqs
  bi11 = bi11f1 F1 + e1,
  bi10 = bi10f1 F1 + e2,
  cs06 = cs06f1 F1 + e3,
  pa02 = pa02f1 F1 + e4,
  pa05 = pa05f1 F1 + e5,
  bi02b = bi02bf1 F1 + e6,
  cs04 = cs04f1 F1 + e7,
  bi02d = bi02df1 F1 + e8,
  bi02a = bi02af1 F1 + e9,
  gd01b = gd01bf1 F1 + e10,
  bi02c = bi02cf1 F1 + e11,
  bi03 = bi03f1 F1 + e12,
  bi13 = bi13f1 F1 + e13,
  bi05 = bi05f1 F1 + e14,
  od01e = od01ef1 F1 + e15,
  gd01g = gd01gf1 F1 + e16,
  bi06 = bi06f1 F1 + e17,
  sk01c = sk01cf1 F1 + e18,
  cs03 = cs03f1 F1 + e19,
  bi12 = bi12f1 F1 + e20,
  pa08 = pa08f1 F1 + e21,
  pa04 = pa04f1 F1 + e22,
  sk02g = sk02gf1 F1 + e23,
  bi08 = bi08f1 F1 + e24,
  bi09 = bi09f1 F1 + e25,
  bi15 = bi15f1 F1 + e26,
  bi16= bi16f1 F1 + e27;
  std
  E1-E27 = vare1-vare27,
  F1 = 1;
  var bi11 bi10 cs06 pa02 pa05 bi02b cs04 bi02d bi02a gd01b bi02c
  bi03 bi13 bi05 od01e gd01g bi06 sk01c cs03 bi12 pa08 pa04 sk02g
  bi08 bi09 bi15 bi16;
run;
```

D.7.4 SPSS code for EFA using PCA

GET

FILE=FILE='C: \Research\Pilot_survey_V06a.sav'.

FACTOR

```
/VARIABLES cs01 cs02 cs03 cs04 cs05 cs06 cs07 hk01 hk02 hk03 hk04
hk05 sk01a sk01b sk01c sk01d sk01e sk01f sk01g sk02a sk02b sk02c
sk02d sk02e sk02f sk02g ti01a ti01b ti01c ti01d ti01e ti01f ti01g
ti02a ti02b ti02c ti02d ti02e ti02f ti02g bi01 bi02a bi02b bi02c
bi02d bi02e bi02f bi02g bi02h bi03 bi04 bi05 bi06 bi07 bi08 bi09
bi10 bi11 bi12 bi13 bi14 bi15 bi16 bi17 bi18 pa01 pa02 pa03 pa04
pa05 pa06 pa07 pa08 pa09 pa10 pa11 pa12 od01a od01b od01c od01d
od01e od01f gd01a gd01b gd01c gd01d
gd01e gd01f gd01g gd01h gd01i id01a id01b id01c
```

```
/MISSING LISTWISE /ANALYSIS cs01 cs02 cs03 cs04 cs05 cs06 cs07
hk01 hk02 hk03 hk04 hk05 sk01a sk01b sk01c sk01d sk01e sk01f sk01g
sk02a sk02b sk02c sk02d sk02e sk02f sk02g ti01a ti01b ti01c ti01d
ti01e ti01f ti01g ti02a ti02b ti02c ti02d ti02e ti02f ti02g bi01
bi02a bi02b bi02c bi02d bi02e bi02f bi02g bi02h bi03 bi04 bi05
bi06 bi07 bi08 bi09 bi10 bi11 bi12 bi13 bi14 bi15 bi16 bi17 bi18
pa01 pa02 pa03 pa04 pa05 pa06 pa07 pa08 pa09 pa10 pa11 pa12 od01a
od01b od01c od01d od01e od01f gd01a gd01b gd01c gd01d gd01e gd01f
gd01g gd01h gd01i id01a id01b id01c
```

```
/PRINT INITIAL EXTRACTION ROTATION FSCORE
```

```
/FORMAT SORT BLANK (.30)
```

```
/PLOT EIGEN ROTATION
```

```
/CRITERIA MINEIGEN (1) ITERATE(25)
```

```
/EXTRACTION PC
```

```
/CRITERIA ITERATE (100)
```

```
/ROTATION VARIMAX
```

```
/SAVE REG (ALL)
```

```
/METHOD=CORRELATION.
```

D.7.5 Syntax code for indexed variables used in hypotheses

```
GET
  FILE='C: \Research\Pilot_survey_V06a.sav'.
COMPUTE ag = SUM(pa10,pa11,ti02g,ti01f,bi07,ti02f,od01d,od01f,od01c,sk01d) .
EXECUTE.
COMPUTE hk =
SUM(cs02,cs07, hk01,hk02,hk03,hk04,hk05,sk01a,sk01b,sk01c,sk01d,sk01e,
sk01g, ti02b, bi01,pa06)

VARIABLE LABELS hk 'Human Knowledge' .
EXECUTE.
COMPUTE sc = SUM(gd01f,sk02a,sk02c,sk02b,sk02d,sk02g,sk02e)

VARIABLE LABELS sc 'structural Capital' .
EXECUTE.
COMPUTE ol = SUM(bi02d,gd01h,ti01b,gd01h,gd01a,ti01a,sk01d,ti02a,bi04,gd01f)

VARIABLE LABELS ol 'organisational learning' .
EXECUTE.

COMPUTE bi =
SUM(bi16,bi11,bi10,bi15,pa02,bi02d,bi02b,pa05,gd01b,bi02a,bi05,cs04
,bi06)

VARIABLE LABELS bi 'business intelligence' .
EXECUTE.
```

D.8 Communication: Openness vs. Suppression of barriers

Frequency	,Openness in Discussion vs. Hierarchy suppression of			
Expected	,barriers			
Cell Chi-Square,				
Percent	4,	5,	3,	Total
4	438	182	63	683
	359.06	274.32	49.622	
	17.354	31.067	3.6067	
	35.76	14.86	5.14	55.76
5	180	310	0	490
	257.6	196.8	35.6	
	23.376	65.113	35.6	
	14.69	25.31	0.00	40.00
3	0	0	26	26
	13.669	10.442	1.889	
	13.669	10.442	307.75	
	0.00	0.00	2.12	2.12
2	26	0	0	26
	13.669	10.442	1.889	
	11.125	10.442	1.889	
	2.12	0.00	0.00	2.12
Total	644	492	89	1225
	52.57	40.16	7.27	100.00
Statistics for Table of od01c by gd01c				
Statistic	DF	Value	Prob	
Chi-Square	6	531.4382	<.0001	
Likelihood Ratio Chi-Square	6	377.2764	<.0001	
Mantel-Haenszel Chi-Square	1	227.8328	<.0001	
Phi Coefficient		0.6587		
Contingency Coefficient		0.5501		
Cramer's V		0.4657		

Appendix E

KM Practices Survey

Table E1. KM Practices Survey Questionnaires

Login
Name:
Password:

Knowledge Management Practices Questionnaire

This is a Knowledge Management Survey which is in partial fulfilment of Harold Campbell's doctoral degree in Asynchronous Groupware and Knowledge Management. The focus of the thesis is on the key practices and strategies in knowledge management. It seeks to find out what is involved in the strategic planning of the KM function and the strategies used for promoting senior management awareness.

The information that you provide will be treated in the strictest confidence. No individual organisation will be identified in any reports emerging from this survey without obtaining the written permission of the researcher.

If you have any queries about the survey, please contact Harold M. Campbell (Tel 267-318-1420 (W), fax 267-390-0574, Mobile: 267-71310506, or email: hcampbell@info.bw).

When you have completed the questionnaire, press the **Submit** button at the bottom of the questionnaire and your responses will be e-mailed to me.

If you wish to retain a printed version of your responses, the *File/Print* option within your browser should print out a copy of the questionnaire with your responses on it. If you have any problem with the email function please create a printed version and send it to us at the following address:

Harold M. Campbell, c/o DPSM, Private Bag 0011, Gaborone, Botswana.

Definition

Knowledge Management: Knowledge management involves any systematic activity related to the capture and sharing of knowledge by the organization
Asynchronous Groupware:

1 Current State of Knowledge Management - within your firm or organization

This section measures the use of formal, informal and everyday knowledge management practices.

Use the following response categories in your answers:

Category In use Before 1999 :
- 1

Firm or organisation began regularly using this practice before 1999.

Category Used Since 1999:
- (2)

Firm or organisation has regularly used this practice since 1999.

Category Plan to Use in the next 24 months :
- (3)

Firm or organisation intends to regularly use this practice in the next 24 months.

Category Don't know/Not Applicable
- (9)

For the purposes of this survey, the term workers includes your regular workers (employees) as well as managers, executives, partners, directors, and persons employed under contract.

Check ONE response for each item.

1.1 Policies and Strategies - Your firm or organisation :

- | | |
|---|---|
| A. has a written knowledge management policy or strategy (KM1001). | <input type="text" value="2) Used Since 1999"/> |
| B. has a values system or culture intended to promote knowledge sharing (KM1002). | <input type="text" value="2) Used Since 1999"/> |
| C. has policies or programs intended to improve worker retention (KM1003). | <input type="text" value="2) Used Since 1999"/> |
| D. uses partnerships or strategic alliances to acquire knowledge (KM1004). | <input type="text" value="2) Used Since 1999"/> |

1.2 Leadership - in your firm or organisation knowledge management practice are :

- A** a responsibility of managers and executives (**KM1005**).
- B** a responsibility of non-management workers (**KM1006**).
- C** a responsibility of the knowledge officer or knowledge management unit (**KM1007**)..

1.3 Incentives - Your firm or organisation specifically rewards knowledge sharing with:

- A** monetary incentives (**KM1009**).
- B** non-monetary incentives (**KM1010**).
- D** explicit criteria for assessing worker performance (**KM1008**).

1.4 Knowledge capture and acquisition - Your firm or organisation regularly:

- A.** captures and uses knowledge obtained from other industry sources such as industrial associations, competitors, clients and suppliers (**KM1011**).
- B.** captures and uses knowledge obtained from public research institutions including universities and government laboratories (**KM1012**).
- C.** dedicates resources to detecting and obtaining external knowledge and communicating it within your firm or organisation (**KM1013**).
- D.** encourages workers to participate in project teams with external experts (**KM1014**).

1.5 Training and Mentoring - Your firm or organisation

- A.** provides formal training related to knowledge management practices (**KM1015**).
- B.** provides informal training related to knowledge management (**KM1016**).
- C.** uses formal mentoring practices, including apprenticeships (**KM1017**).
- D.** encourages experienced workers to transfer their knowledge to new or less experienced workers (**KM1018**).
- E.** encourages workers to continue their education by reimbursing tuition fees for successfully completed work-related courses (**KM1019**).
- F.** offers off-site training to workers in order to keep skills current (**KM1020**).

1.6 Communications - in your firm or organisation workers share knowledge or information by:

- A.** regularly updating databases of good work practices, lessons learned or listings of experts (**KM1021**).
- B.** preparing written documentation such as lessons learned, training manuals, good work practices, articles for publications, etc. (organisational memory) (**KM1022**).
- C.** facilitating collaborative work by projects teams that are physically separated ("virtual teams") (**KM1023**).

2. Are there any Knowledge Management Practices that your firm or organisation uses that we have not included in this survey?

A. Select ONE response only (KM1101). 2. No 1. Yes

B. If Yes, please specify (KM1102)

If you checked **at least** one response in either the **In Use Before 1999** or **Used Since 1999** columns in any of **Questions 1.1 - 1.6**, please **continue**. Otherwise please **go to Question 10**.

3. Reasons for using Knowledge Management Practices

This section measures the reasons for using knowledge management practices.

Please indicate the level of importance you attribute to each reason for using the knowledge management practices currently in use in your firm or organisation.

For Item A to L select ONE of the following response type for each item: (1).Critical/very Important, (2). Important, (3). Somewhat Important, (4). Not at all Important, or (5). Don't know/Not stated.

Reasons Knowledge Management Practices are used in your firm or organisation.

- | | |
|---|--|
| A. To improve the competitive advantage of your firm or organisation (KM2001). | <input style="width: 100%; height: 20px;" type="text" value="1) Critical/Very important"/> |
| B. To help integrate knowledge within your firm or organisation (KM2002). | <input style="width: 100%; height: 20px;" type="text" value="1) Critical/Very important"/> |
| C. To improve the the capture and use of knowledge from sources outside your firm or organisation (KM2003). | <input style="width: 100%; height: 20px;" type="text" value="1) Critical/Very important"/> |
| D. To improve sharing or transferring of knowledge with with partners in strategic alliances, joint ventures or consortia (KM2004). | <input style="width: 100%; height: 20px;" type="text" value="1) Critical/Very important"/> |

- | | | |
|----|---|----------------------------|
| E. | To increase efficiency by using knowledge to improve production processes. (KM2005). | 1) Critical/Very important |
| F. | To protect your firm or organisation from loss of knowledge due to workers' departures (KM2006). | 1) Critical/Very important |
| G. | To train workers to meet strategic objectives of your firm or organisation (KM2007). | 1) Critical/Very important |
| H. | To increase workers acceptance of innovations (KM2008). | 1) Critical/Very important |
| I. | To improve worker retention (KM2009). | 2) Important |
| J. | To identify and/or to protect strategic knowledge present in your firm or organisation (KM2010). | 2) Important |
| K. | To ease collaborative work of projects or teams that are physically separated (i.e. different work sites.) (KM2011). | 2) Important |
| L. | To promote sharing or transferring knowledge with clients (KM2012). | 2) Important |

4. Results of Using Knowledge Management Practices (14 Questions)

This section measures the results of using knowledge management practices.

Please indicate the level of effectiveness you attribute to these results for the KM practices currently in use in your firm or organisation.

For Item A to N select ONE of the following response type for each item: (1). Very Effective; (2). Effective; (3). Somewhat Effective; (4). Not at all Effective; or (9). Don't know/Not stated

- | | | |
|----|---|--------------|
| A. | Increased our knowledge sharing horizontally (across departments, functions or business units) (KM2101). | 2) Effective |
| B. | Increased our knowledge sharing vertically (up the organisational hierarchy) (KM2102). | 2) Effective |
| C. | Improved worker efficiency and / or productivity (KM2103). | 2) Effective |

- D. Improved skills and knowledge of workers (**KM2104**).
- E. Increased our number of markets (more geographic locations) (**KM2105**).
- F. Improved client or customer relations (**KM2106**).
- G. Helped us add new products or services (**KM2107**).
- H. Increased our adaptation of products or services to client requirements (**KM2108**).
- I. Increased flexibility in production and innovation (**KM2109**).
- J. Prevented duplicate research and development (**KM2110**).
- K. Improved our corporate or organisational memory (**KM2111**).
- L. Increased our ability to capture knowledge from public research institutions including universities and government laboratories (**KM2112**).
- M. Increased our ability to capture knowledge from other business enterprises, industrial associations, technical literature, etc (**KM2113**).
- N. Improved involvement of workers in the workplace (**KM2114**).

5. Responsibility for Knowledge Management Practices

- A. Which of the following groups is responsible for the knowledge management practices currently in use in your firm or organisation (**KM2201**)
- B. If none applies in A, please specify which other groups which are responsible for KM in your firm or organisation (**KM2202**)

6. Effectiveness of KM Practices

A. Do you measure the effectiveness of your firm's or organisation's KM practices (KM2301) 2. No 1. Yes

B. If yes to the previous question, please specify (KM2302):

7. Sources of Knowledge Management Practices

Check ALL that apply

Internal

I. Please indicate which sources (s) triggered your firm or organisation to put into effect the KM practices that you currently use (KM2401I).

A. Management B. Non-management workers C. Union (s) active in the work-place (s).

External

II. If the source is also EXTERNAL, please check all that apply (KM2401II).

D. Firm or organisation with which you have a strategic all E. Competitors F. Suppliers

G. Professional, trade or industrial associations or federations H. Universities, technical colleges, public laboratories or business schools I. Consultants

J. Regulatory agencies dealing with environmental, health and safety, financial and other requirements K. Customers or clients

L. Other If there are other SOURCES OF KM Practices, Please specify (KM2402):

8. Spending on Knowledge Management Practices

Do the KM practices currently in use in your firm or organisation have dedicated budgets or spending (KM2501)?

A. Yes B No

1) Increase

If **Yes**, then, in the next 24 months, do you anticipate the KM practices' share of the budget to:

Select ONE response only (KM2502):

In the next 24 months, do you expect KM practices to have dedicated budgets or spending:

1) Yes

Select ONE response only (KM2503):

9. Resistance to Knowledge Management Practices

Did your firm or organisation experience significant resistance to implementing any of the KM practices currently in use (KM2601)?

02. No 01. Yes

If Yes, what groups resisted the implementation of KM practices currently in use?

Check ALL that apply (KM2602)

A. Officers and Workers (KM2602_A)

Check ALL all that apply: Officers and Workers

01 Management 02. Non-management workers 03. Union (s) active in the workplace (s)

B. Functions, Departments or Business Units (KM2602_B)

Check ALL all that apply: Functions, Departments, or Business Units

- | | |
|---|---|
| 04. <input checked="" type="checkbox"/> Information Technology, computer group | 05. <input type="checkbox"/> Marketing, sales |
| 06. <input type="checkbox"/> Distribution, purchasing, communications (corporate library) | 07. <input checked="" type="checkbox"/> Research and development |
| 08. <input type="checkbox"/> Engineering | 09. <input type="checkbox"/> Administration, accounting, human resources. |
| 10. <input type="checkbox"/> Production | |

10. Incentives to implement Knowledge Management Practices

Check ALL that apply.

A What would motivate your firm or organisation to implement or to increase KM practices (KM2701)?

01. Information overload problems within your firm or organisation.
02. Difficulty in capturing workers' undocumented knowledge (know-how)
03. Use of KM tools or practices by competitors.
04. Loss of key personnel and their knowledge.
05. Loss of market share.
06. Difficulties in incorporating external knowledge.
07. Other

B. If other, please specify (KM2702):

11. Employment Structure

For each category listed below, please indicate the range that best represents the current number of workers in your firm or organisation. Please include your regular workers - employees, as well as managers, executives, partners, directors, and persons employed under contract.

Employment in your Country*

Number of full-time equivalent workers in your Country ("Full-time equivalents" represents the number of person-years.)

Check ONE response only.

A Employment in own Country (KM3001)

01. 0
02. 1-19
03. 20-49
04. 50-99
05. 100-249

Employment Outside of your Country*

Number of full-time equivalent workers outside your Country (Exclude workers who are based in Your Country.)

Check ONE response only.

B Employment outside your Country (KM3002)

01. 0
02. 1-19
03. 20-49
04. 50-99
05. 100-249

06. 250-49906. 250-49907. 500 - 1, 99907. 500-1, 99908. 2,000+08. 2, 000+

Part 2: GROUP DOMAIN (GD01): In order to assess those productivity and performance-oriented initiatives attributed to the efforts of work improvement teams (WITS), communities of practice, and focus groups some organisation have differentiated the outcomes of these groups into two categories, task-related and group-related outcomes. Please select the extent of the effects of the outcomes of these two categories in your organisation, for each of the items in (A) to (I) below by indicating whether the EFFECTS of the outcomes are to: (1). a very large extent; (2). large extent; (3). moderate extent, (4). there is no clear evidence, or (5). '... not at all' - no evidence.

- A. Does the use of asynchronous groupware technology facilitate the use of information generated by former KM groups in a way that improves the efficiency and effectiveness of future groups? **(GD01A)**
- B. Does the use of asynchronous groupware technology aid KM groups in adopting a pre-defined group process? **(GD01B)**
- C. Does the use of asynchronous groupware technology suppress *hierarchy* barriers to even contribution of ideas among members from different hierarchical levels in KM groups? **(GD01C)**
- D. Does the use of asynchronous groupware technology facilitate the inclusion and participation of members from different departments in KM groups? **(GD01D)**
- E. Does the use of asynchronous groupware technology reduce the likelihood of authoritarian leaders, facilitators or group members, being able to impose their ideas on the KM group? **(GD01E)**
- F. Does the use of asynchronous groupware technology makes it faster and easier to access information relevant to the three main phases of a KM group - business process definition, analysis and redesign? **(GD01F)**
- G. Does the use of asynchronous groupware technology assist a KM group to complete its task faster? **(GD01G)**
- H. Does the use of asynchronous groupware technology lead to a reduction in the costs involved in running KM groups? **(GD01H)**
- I. Does the use of asynchronous groupware technology

lead to an increase in the effectiveness of process redesign proposals generated by KM groups? **(GD01I)**

Part 3: INDIVIDUAL DOMAIN (ID01): In order to assess those productivity and performance-oriented initiatives attributed to the efforts of individuals, some organisations have differentiated the outcomes of these individuals into two categories, task-related and team-related outcomes.

Please select the extent of the effects of the outcomes of these two categories in your organization, for each of the items in (A) to (C), by indicating whether the effects of the outcomes are to a very large extent, large extent, moderate extent, or there is no clear evidence..., in their use of groupware technology.

- A.** Does the use of asynchronous groupware technology increase the satisfaction felt by KM group members as a result of group interaction?
- B.** Does the use of asynchronous groupware technology increase the commitment of KM group members to group proposals?
- C.** Does the use of asynchronous groupware technology increase individual learning about the organisation and its business processes from the participation in KM groups?

E.2 Reliability Analysis Code - Cronbach's alpha for KMP Survey

```

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m2005 km2006 km2007 km2008 km2009 km2010
km2011 km2012 km2101 km2102 km2103 km2104 km2105 km2106 km2107 km2108 km2109 k
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Reliability

Warnings

The covariance matrix is calculated and used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	121	100.0
	Excluded ^a	0	.0
	Total	121	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.587	.697	80

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
249.74	244.679	15.642	80

E.3 Factor analysis -Output

E.3.1 Factor Analysis Code – KM practices survey

FACTOR

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  km2004 km2005 km2006 km2007 km2008 km2009 km2010
  km2011 km2012 km2101 km2102 km2103 km2104 km2105 km2106 km2107 km2108
  km2109 km2110 km2111 km2112 km2113 km2114 km2201
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E.3.2 Communalities

Variables - 1	Initial	Extraction
POLICY OR STRATEGY	1.000	.776
CULTURE & VALUE SYSTEM	1.000	.685
POLICIES FOR WORKER RENTENTION	1.000	.765
STRATEGIC ALLIANCES	1.000	.776
RESPONSIBILITY OF MANAGERS	1.000	.710
RESPONSIBILITY OF NON-MANAGERS	1.000	.775
RESPONSIBILITY OF KNOWLEDGE OFFICER	1.000	.759
EXPLICIT CRITERIA FOR WORKER ASSESSMENT	1.000	.764
MONETARY INCENTIVES	1.000	.722
NON-MONETARY INCENTIVES	1.000	.767
KNOWLEDGE FROM OTHER SOURCES	1.000	.688
KNOWLEDGE FROM PUBLIC RESEARCH	1.000	.770
RESOURCES FOR DETECTING KNOWLEDGE	1.000	.660
ENCOURAGE PARTICIPATION IN PROJECT TEAMS	1.000	.713
PROVIDES FORMAL TRAINING	1.000	.719
PROVIDES INFORMAL TRAINING	1.000	.725
USES FORMAL MENTORING PRACTICES	1.000	.748
ENCOURAGE TRANSFER OF KNOWLEDGE	1.000	.690
REIMBURSEMENT OF EDUCATION FEES	1.000	.680
OFF-SITE TRAINING TO KEEP SKILLS CURRENT	1.000	.695
UPDATE DATABASES OF LESSONS LEARNED	1.000	.706
PREPARE WRITTEN DOCUMENTATION OF LESSONS LEARNED	1.000	.673

Variables - 2	Initial	Extraction
FACILITATE COLLABORATIVE WORK	1.000	.741
COMPETITIVE ADVANTAGE	1.000	.674
INTEGRATION OF KNOWLEDGE	1.000	.678
CAPTURE & USE OF KNOWLEDGE	1.000	.769
KNOWLEDGE SHARING	1.000	.754
INCREASED EFFICIENCY	1.000	.683
PROTECTION FROM LOSS OF KNOWLEDGE	1.000	.704
TO MEET STRATEGIC OBJECTIVES	1.000	.687
ACCEPTANCE OF INNOVATIONS	1.000	.760
IMPROVE WORKER RENTENTION	1.000	.712
PROTECT STRATEGIC KNOWLEDGE	1.000	.694
EASE COLLABORATIVE WORK	1.000	.762
PROMOTE KNOWLEDGE SHARING WITH CLIENTS	1.000	.785
HORIZONTAL KNOWLEDGE SHARING	1.000	.726
VERTICAL KNOWLEDGE SHARING	1.000	.817
IMPROVED WORKER EFFICIENCY	1.000	.708
IMPROVED SKILLS & KNOWLEDGE OF WORKERS	1.000	.704
INCREASED NUMBER OF MARKETS	1.000	.760
IMPROVED CLIENT RELATIONS	1.000	.706
ADD NEW PRODUCTS OR SERVICES	1.000	.711
INCREASE ADAPTATION OF PRODUCTS	1.000	.763
INCREASED FLEXIBILITY IN PRODUCTION	1.000	.745
PREVENT DUPLICATION	1.000	.751

Variables - 3	Initial	Extraction
ORGANISATIONAL MEMORY	1.000	.742
CAPTURE KNOWLEDGE FROM PUBLIC INSTITUTIONS	1.000	.742
CAPTURE KNOWLEDGE FROM BUSINESS ENTERPRISES	1.000	.773
INVOLVEMENT OF WORKERS	1.000	.711
RESPONSIBILITY OF KM - 1	1.000	.754
MEASUREMENT OF KM EFFECTIVENESS - 1	1.000	.707
SOURCES TRIGGERING KM - INTERNAL	1.000	.653
SOURCES TRIGGERING KM - EXTERNAL	1.000	.806
DEDICATED BUDGET - 2	1.000	.888
DEDICATED BUDGET - 3	1.000	.797
DEDICATED BUDGET - 4	1.000	.912
RESISTENCE TO KM IMPLEMENTATION	1.000	.878
RESISTENCE: OFFICERS & WORKERS	1.000	.879
RESISTENCE: FUNCTIONS	1.000	.661
INCENTIVES FOR KM IMPLEMENTATION	1.000	.821
EMPLOYMENT IN COUNTRY	1.000	.820
EMPLOYMENT OUTSIDE COUNTRY	1.000	.846
KM DECENTRALISATION	1.000	.718
KNOWLEDGE & INFORMATION SHARING	1.000	.694
OPENNESS	1.000	.671
INTER-LEVEL & INTERDEPARTMENTAL COMMUNICATION	1.000	.699

Variables - 4	Initial	Extraction
MANAGEMENT SUPPORT TO KM DECENTRALISATION	1.000	.799
ALIGNMENT OF KM WITH ORGANISATIONAL GOALS	1.000	.753
REUSE OF PREVIOUS KM INFORMATION	1.000	.716
PROCESS ADOPTION	1.000	.694
HIERARCHY BARRIERS SUPPRESSION	1.000	.727
DEPARTMENTAL HETEROGENEITY	1.000	.709
INDIVIDUAL INFLUENCE	1.000	.784
INFORMATION ACCESS	1.000	.786
DURATION	1.000	.807
COST	1.000	.791
EFFECTIVENESS	1.000	.876
SATISFACTION	1.000	.917
COMMITMENT TO GROUP PROPOSALS	1.000	.947
LEARNING	1.000	.942

Extraction Method: Principal Component Analysis.

E.3.3 Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.331	10.413	10.413	8.331	10.413	10.413	6.538	8.172	8.172
2	5.447	6.809	17.223	5.447	6.809	17.223	4.585	5.731	13.903
3	3.828	4.785	22.007	3.828	4.785	22.007	3.026	3.782	17.685
4	3.332	4.164	26.172	3.332	4.164	26.172	2.835	3.544	21.229
5	3.050	3.813	29.984	3.050	3.813	29.984	2.437	3.046	24.274
6	2.593	3.241	33.226	2.593	3.241	33.226	2.196	2.745	27.019
7	2.364	2.955	36.180	2.364	2.955	36.180	2.150	2.688	29.707
8	2.306	2.883	39.063	2.306	2.883	39.063	2.099	2.624	32.331
9	2.280	2.850	41.914	2.280	2.850	41.914	2.067	2.584	34.915
10	2.101	2.626	44.539	2.101	2.626	44.539	2.060	2.575	37.490
11	2.004	2.504	47.044	2.004	2.504	47.044	2.043	2.554	40.043
12	1.918	2.398	49.442	1.918	2.398	49.442	2.010	2.512	42.555
13	1.798	2.247	51.689	1.798	2.247	51.689	1.919	2.398	44.954
14	1.755	2.194	53.883	1.755	2.194	53.883	1.890	2.362	47.316
15	1.685	2.107	55.990	1.685	2.107	55.990	1.884	2.354	49.670
16	1.615	2.018	58.008	1.615	2.018	58.008	1.864	2.330	52.000
17	1.494	1.868	59.876	1.494	1.868	59.876	1.851	2.314	54.313
18	1.458	1.822	61.698	1.458	1.822	61.698	1.831	2.288	56.602
19	1.407	1.759	63.456	1.407	1.759	63.456	1.749	2.187	58.788
20	1.378	1.723	65.179	1.378	1.723	65.179	1.738	2.172	60.961
21	1.310	1.638	66.817	1.310	1.638	66.817	1.737	2.171	63.131
22	1.234	1.542	68.359	1.234	1.542	68.359	1.719	2.149	65.280
23	1.183	1.479	69.838	1.183	1.479	69.838	1.711	2.139	67.419
24	1.154	1.442	71.280	1.154	1.442	71.280	1.595	1.993	69.412
25	1.096	1.370	72.650	1.096	1.370	72.650	1.561	1.951	71.364
26	1.059	1.324	73.974	1.059	1.324	73.974	1.558	1.948	73.312
27	1.007	1.258	75.232	1.007	1.258	75.232	1.536	1.920	75.232
28	.972	1.215	76.447						
29	.937	1.171	77.619						
30	.903	1.128	78.747						
31	.840	1.050	79.798						
32	.813	1.016	80.814						
33	.794	.993	81.807						
34	.778	.972	82.779						
35	.735	.919	83.698						
36	.698	.873	84.570						
37	.685	.856	85.426						
38	.663	.828	86.255						
39	.639	.799	87.054						
40	.585	.732	88.545						

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
41	.585	.732	88.545						
42	.572	.716	89.261						
43	.543	.679	89.940						
44	.520	.650	90.590						
45	.484	.605	91.195						
46	.481	.602	91.796						
47	.459	.574	92.370						
48	.441	.552	92.922						
49	.420	.526	93.447						
50	.399	.498	93.945						
51	.385	.482	94.427						
52	.369	.461	94.888						
53	.339	.424	95.312						
54	.310	.387	95.700						
55	.298	.373	96.072						
56	.280	.350	96.423						
57	.247	.309	96.732						
58	.242	.303	97.034						
59	.222	.277	97.312						
60	.210	.262	97.574						
61	.207	.259	97.833						
62	.190	.237	98.070						
63	.179	.223	98.293						
64	.161	.201	98.494						
65	.154	.192	98.687						
66	.148	.185	98.872						
67	.128	.160	99.032						
68	.124	.155	99.186						
69	.109	.137	99.323						
70	.100	.126	99.449						
71	.086	.108	99.556						
72	.077	.096	99.652						
73	.072	.090	99.742						
74	.059	.074	99.816						
75	.052	.065	99.880						
76	.038	.048	99.928						
77	.027	.034	99.962						
78	.017	.022	99.984						
79	.011	.013	99.997						
80	.002	.003	100.000						

Extraction Method: Principal Component Analysis.

E.3.4 (1) Rotated Component Matrix (a)

VARIABLES	COMPONENTS									
	1	2	3	4	5	6	7	8	9	10
COMMITMENT TO GROUP PROPOSALS	.928									
LEARNING	.926									
EFFECTIVENESS	.906									
SATISFACTION	.882									
COST	.803									
INDIVIDUAL INFLUENCE	.789									
INFORMATION ACCESS	.783									
DURATION	.773									
POLICIES FOR WORKER RETENTION		.824								
INCREASE ADAPTATION OF PRODUCTS		.689								
KNOWLEDGE & INFORMATION SHARING		.554								
INCREASED NUMBER OF MARKETS		.539								
PROVIDES FORMAL TRAINING		-.459								
PROTECT STRATEGIC KNOWLEDGE		.457								
ADD NEW PRODUCTS OR SERVICES		.424								
UPDATE DATABASES OF LESSONS LEARNED		-.415					.413			
IMPROVED SKILLS & KNOWLEDGE OF WORKERS		.399					-.399			
ACCEPTANCE OF INNOVATIONS		.349								
DEDICATED BUDGET -4			-.917							
DEDICATED BUDGET - 2			.903							
DEDICATED BUDGET - 3			.824							

Variables	1	2	3	4	5	6	7	8	9	10
RESISTENCE: OFFICERS & WORKERS				.898						
RESISTENCE TO KM IMPLEMETATION				.889						
RESISTENCE: FUNCTIONS				-.373						
STRATEGIC ALLIANCES					.797					
RESPONSIBILITY OF MANAGERS					.747					
RESPONSIBILITY OF NON- MANAGERS					.587				.357	
EASE COLLABORATIVE WORK						.788				
CAPTURE KNOWLEDGE FROMBUSINESS ENTERPRISES		.371				.579				
CAPTURE KNOWLEDGE FROM PUBLIC INSTITUTIONS						.389				
HORIZONTAL KNOWLEDGE SHARING		.308				-.388				
OFF-SITE TRAINING TO KEEP SKILLS CURRENT							.725			
REIMBURSEMENT OF EDUCATION FEES							-.454			
RESOURCES FOR DETECTING KNOWLEDGE							.420			
EMPLOYMENT OUTSIDE COUNTRY								.794		
EMPLOYMENT IN COUNTRY								.738		
KM DECENTRALISATI ON							.388	-.429		
PROCESS ADOPTION									.755	

Variables	1	2	3	4	5	6	7	8	9	10
PROTECTION FROM LOSS OF KNOWLEDGE									.384	
RESPONSIBILITY OF KNOWLEDGE OFFICER										.722
EXPLICIT CRITERIA FOR WORKER ASSESSMENT										.706
PROVIDES INFORMAL TRAINING										
INVOLVEMENT OF WORKERS						.323				
INTER-LEVEL & INTERDEPARTMENTAL COMMUNICATION										
POLICY OR STRATEGY										
CULTURE & VALUE SYSTEM										
NON-MONETARY INCENTIVES										
MONETARY INCENTIVES		.407								
IMPROVED CLIENT RELATIONS										
INCREASED FLEXIBILITY IN PRODUCTION										
CAPTURE & USE OF KNOWLEDGE										
COMPETITIVE ADVANTAGE		.316								
TO MEET STRATEGIC OBJECTIVES										
SOURCES TRIGGERING KM - INTERNAL										
MEASUREMENT OF KM EFFECTIVENESS		.341								

- 1

Variables	1	2	3	4	5	6	7	8	9	10
ALIGNMENT OF KM WITH ORGANISATIONAL GOALS										
REUSE OF PREVIOUS KM INFORMATION										.311
MANAGEMENT SUPPORT TO KM DECENTRALISATION										
IMPROVE WORKER RETENTION										
INCENTIVES FOR KM IMPLEMENTATION										
OPENNESS										
PREPARE WRITTEN DOCUMENTATION OF LESSONS LEARNED										
RESPONSIBILITY OF KM - 1										
USES FORMAL MENTORING PRACTICES										
SOURCES TRIGGERING KM - EXTERNAL										
KNOWLEDGE FROM OTHER SOURCES										
VERTICAL KNOWLEDGE SHARING										
KNOWLEDGE FROM PUBLIC RESEARCH										
INCREASED EFFICIENCY										

Variables	1	2	3	4	5	6	7	8	9	10
IMPROVED WORKER EFFICIENCY										
PROMOTE KNOWLEDGE SHARING WITH CLIENTS										
KNOWLEDGE SHARING										
ENCOURAGE PARTICIPATION IN PROJECT TEAMS										
PREVENT DUPLICATION		.314								
FACILITATE COLLABORATIVE WORK										
DEPARTMENTAL HETERGEINEITY										
INTEGRATION OF KNOWLEDGE		.330							.314	
ENCOURAGE TRANSFER OF KNOWLEDGE										
HIERARCHY BARRIERS SUPPRESSION										
ORGANISATIONAL MEMORY										

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
 a. Rotation converged in 52 iterations.

E.3.4 (2) Rotated Component matrix (a)

COMPONENTS										
VARIABLES	11	12	13	14	15	16	17	18	19	20
COMMITMENT TO GROUP PROPOSALS										
LEARNING										
EFFECTIVENESS										
SATISFACTION										
COST										
INDIVIDUAL INFLUENCE										
INFORMATION ACCESS										
DURATION										
POLICIES FOR WORKER RETENTION										
INCREASE ADAPTATION OF PRODUCTS										
KNOWLEDGE & INFORMATION SHARING										
INCREASED NUMBER OF MARKETS				.335			.336			
PROVIDES FORMAL TRAINING										
PROTECT STRATEGIC KNOWLEDGE										
ADD NEW PRODUCTS OR SERVICES										
UPDATE DATABASES OF LESSONS LEARNED										
IMPROVED SKILLS & KNOWLEDGE OF WORKERS										

Variables	11	12	13	14	15	16	17	18	19	20
ACCEPTANCE OF INNOVATIONS		-0.330								
DEDICATED BUDGET -4										
DEDICATED BUDGET - 2										
DEDICATED BUDGET - 3										
RESISTENCE: OFFICERS & WORKERS										
RESISTENCE TO KM IMPLEMETATION										
RESISTENCE: FUNCTIONS										
STRATEGIC ALLIANCES										
RESPONSIBILITY OF MANAGERS										
RESPONSIBILITY OF NON-MANAGERS										
EASE COLLABORATIVE WORK										
CAPTURE KNOWLEDGE FROMBUSINESS ENTERPRISES										
CAPTURE KNOWLEDGE FROM PUBLIC INSTITUTIONS										
HORIZONTAL KNOWLEDGE SHARING					-0.308					
OFF-SITE TRAINING TO KEEP SKILLS CURRENT										

Variables	11	12	13	14	15	16	17	18	19	20
REIMBURSEMENT OF EDUCATION FEES										
RESOURCES FOR DETECTING KNOWLEDGE	.338									
EMPLOYMENT OUTSIDE COUNTRY										
EMPLOYMENT IN COUNTRY										
KM DECENTRALISATION										
PROCESS ADOPTION										
PROTECTION FROM LOSS OF KNOWLEDGE										
RESPONSIBILITY OF KNOWLEDGE OFFICER										
EXPLICIT CRITERIA FOR WORKER ASSESSMENT										
PROVIDES INFORMAL TRAINING	.806									
INVOLVEMENT OF WORKERS	.442									
INTER-LEVEL & INTERDEPARTMENTAL COMMUNICATION	.378									
POLICY OR STRATEGY		.790								
CULTURE & VALUE SYSTEM		.677								
NON-MONETARY INCENTIVES			.830							

Variables	11	12	13	14	15	16	17	18	19	20
MONETARY INCENTIVES			.519							
IMPROVED CLIENT RELATIONS				.752						
INCREASED FLEXIBILITY IN PRODUCTION				.469			.308			
CAPTURE & USE OF KNOWLEDGE				-.427						
COMPETITIVE ADVANTAGE				.395						
TO MEET STRATEGIC OBJECTIVES					.769					
SOURCES TRIGGERING KM - INTERNAL					.518					
MEASUREMENT OF KM EFFECTIVENESS - 1					-.454					
ALIGNMENT OF KM WITH ORGANISATIONAL GOALS						.804				
REUSE OF PREVIOUS KM INFORMATION						.406				
MANAGEMENT SUPPORT TO KM DECENTRALISATION							-.856			
IMPROVE WORKER RETENTION							.301			
INCENTIVES FOR KM IMPLEMENTATION								.848		

Variables	11	12	13	14	15	16	17	18	19	20
OPENNESS								-.378		
PREPARE WRITTEN DOCUMENTATION OF LESSONS LEARNED							-.353	.362		
REPONSIBILITY OF KM - 1									.802	
USES FORMAL MENTORING PRACTICES					-.319				.481	
SOURCES TRIGERRING KM - EXTERNAL										.848
KNOWLEDGE FROM OTHER SOURCES			.348							-.382
VERTICAL KNOWLEDGE SHARING										
KNOWLEDGE FROM PUBLIC RESEARCH										-.300
INCREASED EFFICIENCY										
IMPROVED WORKER EFFICIENCY										
PROMOTE KNOWLEDGE SHARING WITH CLIENTS										
KNOWLEDGE SHARING										

Variables	11	12	13	14	15	16	17	18	19	20
ENCOURAGE PARTICIPATION IN PROJECT TEAMS										
PREVENT DUPLICATION									-.321	
FACILITATE COLLABORATIVE WORK						-.374				
DEPARTMENTAL HETERGEINEITY										
INTEGRATION OF KNOWLEDGE										
ENCOURAGE TRANSFER OF KNOWLEDGE										
HIERARCHY BARRIERS SUPPRESSION										
ORGANISATION AL MEMORY										

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
 a. Rotation converged in 52 iterations.

E.4 Factor analysis -Output

E.4.1 Syntax code for composite indices: OL, SC, AG, HK, and BI

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Appendix F

Directorate Functional Responsibilities

F.1 Main Functions

The Directorate is functionally structured into six Divisions, Botswana Institute of Administration and Commerce and five Units. It is headed by a Director who is assisted by two Deputy Directors. One Deputy Director is responsible for Productivity and Development functions and the other is responsible for Personnel Administration and Recruitment functions. Then there is a Coordinator responsible for Reforms Initiatives Unit. The Director reports to Permanent Secretary to the President (PSP), who is the Head of the Public Service.

The following are the functions of the Directorate of Public Service Management.

- a) Public Service Human Resource Policy and Leadership;
- b) Public Service Administration;
- c) Public Service Manpower Planning;
- d) Public Service Manpower Complement, Grading and Deployment;
- e) Public Service Personnel Administration;
- f) Public Service Manpower Training and Development;
- g) Public Service Performance and Productivity

F.1.1 Personnel Administration Division

i). Purpose

The overall purpose of this Division is-

“to maintain the Public Service by effectively administering the Public Service related regulations and terms of service and ensuring that the overall Public Service integrity, morale and productivity remain very high”.

ii). Functions

In order to achieve the above purpose the Division performs the following functions:

- a) Personnel Administration Policy
 - developing, coordinating and providing guidance, direction and advice in all matters relating to personnel administration policy and operational guidelines.
 - providing overall leadership on personnel administration related matters at overall Public Service level.

- b) Administration of Terms and Conditions of Service
- objectively interpreting and judiciously applying the provisions of the Public Service Act and Regulations pertaining to personnel administration.
 - administering public service personnel conditions of service and employment contracts;
 - interpreting the Public Service Act, General Orders as well as existing Personnel Directives.
 - providing personnel directives and instructions promulgating Public Service regulations related interpretations, changes, additions etc.
 - delegating appropriate personnel administration related responsibilities and authority to Ministries and Departments.
 - introducing modern human resources management concepts and practises within the Public Service.
- c) Personnel Administration Policy Reviews and Research
- reviewing personnel administration policies, regulations and guidelines to ensure that they remain relevant and effective.
 - maintaining active liaison with all clients (ministries/departments) in order to obtain feedback on the implementation of personnel policies, regulations and systems.
 - undertaking personnel administration related research to ensure efficiency and effectiveness of the Public Service.
- d) Public Service Staff Welfare and Safety
- developing sound public service staff welfare and safety regulations and practices and coordinate their implementation.
 - ensuring that staff welfare requirements are comprehensive in coverage and compatible with the requirements of the public service.
 - ensuring that the requirements of healthy physical working conditions stipulated in the regulations are adequately met.
 - ensuring the provision of occupational health and safety requirements.
- e) Public Service Code of Conduct (Staff Relations)
- developing and coordinating the implementation of code of conduct to maintain high integrity in the Public Service.
 - reviewing the code of conduct, monitoring the implementation of the Public Service disciplinary procedures and evaluating their effectiveness.
 - providing ministries and departments with guidance and direction on all Public Service conduct and discipline related matters.
 - assisting ministries and the departments in the interpretation and implementation Public Service Act/Regulations, Directives and the General Orders as they relate to discipline and grievances.
 - analysing cases of grievances and conduct investigations where necessary to obtain more information.
 - advising the Director on the appropriate disciplinary action.
 - advising ministries and Office of the President on individual appeals for presidential pardon.
 - advising the Public Service Commission on the application, interpretation of the Public Service Act/Regulations, General Orders and Directives.
 - providing secretarial service to the Public Service Commission on cases of appeal.

- f) Industrial Relations
- coordinating, administering and maintaining the public service staff consultative machinery and liaises with Botswana Civil Service Association (BCSA) and Central Joint Staff Consultative Council (CJSCC).
 - providing professional leadership and guidance on all Industrial Relations matters at all levels of the service.
 - providing secretarial services to the Central Joint Staff Consultative Council (CJSCC) and ensuring harmonious and sound industrial relations within the Public Service.
- g) Staff Relations functions
- providing Ministries and Departments with guidance and direction on all Public Service Conduct and Discipline related matters;
 - assisting Ministries and Departments in the interpretation and implementation of the Public Service Act/Regulations, Directives and the General Orders as they relate to discipline and grievances;
 - analysing cases of grievances and conduct investigations where necessary to obtain more information;
 - advising the Director on the appropriate disciplinary action;
 - providing Secretariat Services to the Public Service Commission;
 - advising Ministries and Office of the President on Appeals for Presidential pardon;
 - advising the Public Service Commission on the application, interpretation of the Public Service Act/Regulations, General Orders and Directives.
- h) Public Service Performance Appraisal
- developing, administering and maintaining performance appraisal system.
 - developing in close consultation with Management Services Division of the Directorate, qualitative and Quantitative performance standards for every public service post.
 - ensuring that approved performance standards are properly documented and made known to each job holder and that the outcome of performance appraisal is effectively followed up.
- i) Public Service Career Plans (Schemes of Service)
- developing sound career plans (schemes of service) based on approved job descriptions and specifications for every cadre in the Public Service.
 - documenting the career plans and making these widely known to all users – potential and current.
 - coordinating, reviewing and providing professional guidance and direction on all matters pertaining to public service career planning and development and ensuring effective implementation.
- j) Public Service Terminal and Retiring Matters
- developing administering and coordinating policy governing public service terminal and retirement benefits and operational guidelines.
 - providing professional guidance and direction to Ministries and Departments on all matters pertaining to termination of service e.g.

- resignation, expiry of contract, retirements, dismissal, abolition of post etc.
- k) Public Service Salary Structure and Salary Administration
- developing and maintaining public service policy and operational guidelines on salary structure and administration
 - coordinating, administering, monitoring, reviewing and evaluating the approved salary structure to ensure conformity.
 - conducting compensation surveys to gather reliable data on changes affecting government salary structure and administration.
 - providing assistance to government appointed salaries review commission and providing professional guidance and direction on all matters relating to public service salary structure, salary administration, fringe benefits and allowances.
- l) Ensuring effective management of the Personnel Administration Division.

iii). *Staff Establishment*

The Personnel Administration Division has staff complement of 20 of which 16 are filled, four are vacant and 3 officers are on training as at 31st March, 2000.

F1.2 Recruitment and Placement Division

i) *Purpose*

The overall purpose of this Division is-

“to attract and obtain the right type of manpower to fill the approved Public Service posts, and to ensure that entry into the Public Service is determined primarily on the basis of merit and full regard to the efficiency of the Public Service”.

ii) *Functions*

In order to achieve the above purpose the Division performs the following functions:

- a) *Recruitment Policy Leadership and Direction*
- developing long term public service recruitment policies and operational guidelines and providing overall leadership and direction on public service recruitment.
 - providing direction, interpretation and coordination of all Public Service related Recruitment and Placement matters.
 - developing and introducing selection criteria for meeting the merit requirements and periodically reviewing recruitment related regulations, systems and procedures to ensure their relevance and effectiveness.
 - developing sound, need related, Public Service promotions and transfers related criteria and operational guidelines, based on approved regulations and principles.
- b) *Monitor Public Service vacancy and recruitment status*
- developing public service vacancy monitoring system and related records.
 - updating vacancy related information and effectively maintaining the vacancy monitoring system.

- liaising effectively with ministries and departments on public service vacancy and recruitment matters and producing periodic reports on vacancy status.
 - monitoring and evaluating the effectiveness of the vacancy monitoring system.
- c) *Recruitment System and Procedures*
- developing and documenting public service recruitment systems and related procedures, based on the principles of merit selection and Public Service regulations.
 - coordinating, monitoring and evaluating the effectiveness of recruitment systems and procedures to ensure their effectiveness and efficiency.
 - developing and introducing the appropriate selection criteria.
- d) *Recruitment and Placement for the Permanent Secretary to the President (PSP) and the Directorate and for expatriate officers.*
- advertising for Directorate's vacancies and those that fall under PSP's authority;
 - issuing appointment letters specifying terms and conditions of appointment and filling through promotions within Directorate and for positions that fall under the PSP's authority.
 - liaising with external recruitment agencies on available vacancies within the Public Service for which external advertising is required.
- e) *Induction and orientation of new staff joining the Public Service*
- developing and administering public service orientation and induction programme in consultation with Ministries/ Departments and training institutions.
 - evaluating the effectiveness of the programmes
- f) *Technical Assistance Personnel and Related Matters*
- developing an efficient system of administering technical assistance agreements relating to personnel and manpower development.
 - coordinating the implementation of all technical assistance agreements and protocol and maintain up-to-date records in collaboration with the stakeholders.
 - providing guidance, advice and direction on technical assistance matters and liaises with Ministry of Finance and Development Planning, Ministry of Foreign Affairs and other ministries and agencies.
- g) *Representation of DPSM in Appointment Boards of Ministries*
- providing professional advice on the Public Service staff selection criteria through involvement in the Ministries/ Departments Appointment Boards.
- h) *Ensuring the effective management of the Recruitment and Placement Division.*
- iii) *Staff Establishment*

The Recruitment and Placement Division has a staff complement of 27 of which 18 are filled, 5 are vacant and 4 are on training as at 31st March, 2000.

F1.3 Management Services Division

i) Purpose

The overall purpose this Division is:-

“to ensure that the Public Service continuously remain effective and efficient at all levels and is capable of adopting to the national development needs and priorities. Introduce effective measures to combat inefficiency and wastages, promote efficiency and productivity and achieve optimal utilisation of resources allocated to the Government”.

ii) Functions

In order to achieve the above purpose the Division performs the following functions:

- a) *Public Service Efficiency and Productivity Policy, direction and coordination.*
 - developing long term public service efficiency and productivity improvement related policy and operational guidelines based on the approved overall national policies and priorities.
 - coordinating the implementation of approved public service efficiency promotion policies and operational guidelines.
 - providing professional advice and expertise on all aspects of public service efficiency and performance improvement.
 - developing sound local capabilities and expertise in all activities of the Division.
 - developing and maintaining sound systems, procedures and records to ensure public service efficiency and productivity and liaising with ministries and other agencies in all aspects of public service performance and improvement.
 - developing and maintaining high professional standards in management services work and servicing as the focal point for quality service delivery, productivity and performance improvement in the Public Service.

- b) *Review of Public Service Organisation*
 - developing need oriented and sound methodology for assessing effectiveness of Public Service organisational performance and for developing sound improvement proposals.
 - assessing with the mandate adequacy of the organisational objectives of every organisational unit in the Public Service and assisting in developing context related sound organisational objectives and goals at each level of the structure.
 - assessing adequacy of organisational functions and ensuring that functions remain relevant to assist in attaining organisational objectives, assist in developing objectives related sound organisation functions at each level.
 - assessing effectiveness of organisational structures in terms of logical grouping of functions, delegation of functions and authority communication levels, etc and assisting in developing need related sound organisational structures at each level.

- through consultation and active involvement of clients, selling sound organisation improvement proposals to ministries and departments and assisting in implementing the approved organisational changes.
 - developing and producing organisational manuals for purpose of reference and training.
 - developing and introducing effective regular review programmes to ensure that Ministry/Department and organisations (at all level) remain sound and effective at all time.
- c) *Review of Public Service Administrative Work Systems and Procedures.*
- developing sound methodology for assessing effectiveness and efficiency of all public service administrative systems and procedures and for developing sound improvement proposals.
 - reviewing efficiency of the public service administrative systems and procedures and developing proposals on simplified and standardised work systems and methods.
 - developing and producing public service systems and procedures manuals and assist ministries in their implementation.
 - developing and producing Public Service systems and procedure manuals for purposes of reference and training.
 - developing and introducing effective regular review programmes to ensure that the Public Service systems and work procedures continuously remain efficient and effective and inefficiencies are stopped at source.
- d) *Public Service Job Descriptions and Specifications*
- developing sound methodology for systematically analysing contents and requirements of approved jobs/posts within the Public Service.
 - analysing job contents within the Public Service and developing standard job descriptions and job specification.
 - maintaining an up-to-date record of approved job descriptions and specifications.
 - developing and introducing an effective system for periodic review of existing job descriptions and specifications.
- e) *Grading of Public Service Posts*
- developing and introducing a sound system for evaluating public service jobs.
 - applying the approved job evaluation method for grading existing jobs.
 - maintaining the job evaluation system for grading and regrading public service posts.
 - providing technical advice on the adequacy of existing public service salary structure.
- f) *Public Service Manpower Utilisation*
- developing and introducing sound system of assessing needs and utilisation of public service manpower e.g. manpower utilisation.
 - assisting ministries in developing sound staffing patterns and defining job standards which form the basis for assessment of work performance and manpower needs and utilisation.
 - developing and introducing an effective programme for reviewing utilisation of available manpower using staffing patterns and standards.

g) *Ensuring the effective management of Management Services Division*

iii) Staff Establishment

Management Services Division has a staff complement of 24, 18 of which are filled, these include 4 expatriate officers. 4 posts are vacant and 2 officers are on training as at 31st March, 2000.

F1.4 Manpower Planning, Budgeting and Research

i) *Purpose*

The overall purpose of this Division is-

“to objectively plan the public sector manpower needs and development, and provide manpower resource to Ministries and Departments to enable them to carry out Government’s service and development functions”.

ii) *Functions*

In order to achieve the above purpose the Division performs the following functions:

a) *Manpower Planning, Budgeting and Research Policy Direction and Co-ordination*

- developing and coordinating long term public service manpower planning and budgeting policy and operational guidelines and provides leadership and professional expertise in these areas.
- developing and maintaining sound manpower planning systems, procedures and records and liaising with Ministry of Finance and Development Planning and other ministries and agencies on all aspects of manpower planning and budgeting.
- reviewing approved manpower planning and budgeting policies, priorities, systems and procedures and conducting research on human resource planning and budgeting.

b) *Assessment of Manpower Demand.*

- studying the long and medium term national development objectives, policies, programmes, targets and strategies with a view to assess their manpower related implications.
- examining current employment trends in the public service, developing and maintaining a statistical database on the characteristics of national and public sector labour force.
- producing periodic reports on Public Service manpower demand situation.

c) *Public Sector Manpower Forecasting*

- conducting research and forecasting the changes in national policies on socio-economic development, education and employment, incomes and wages, industrial training etc.

d) *Assessment of Manpower Supply situation*

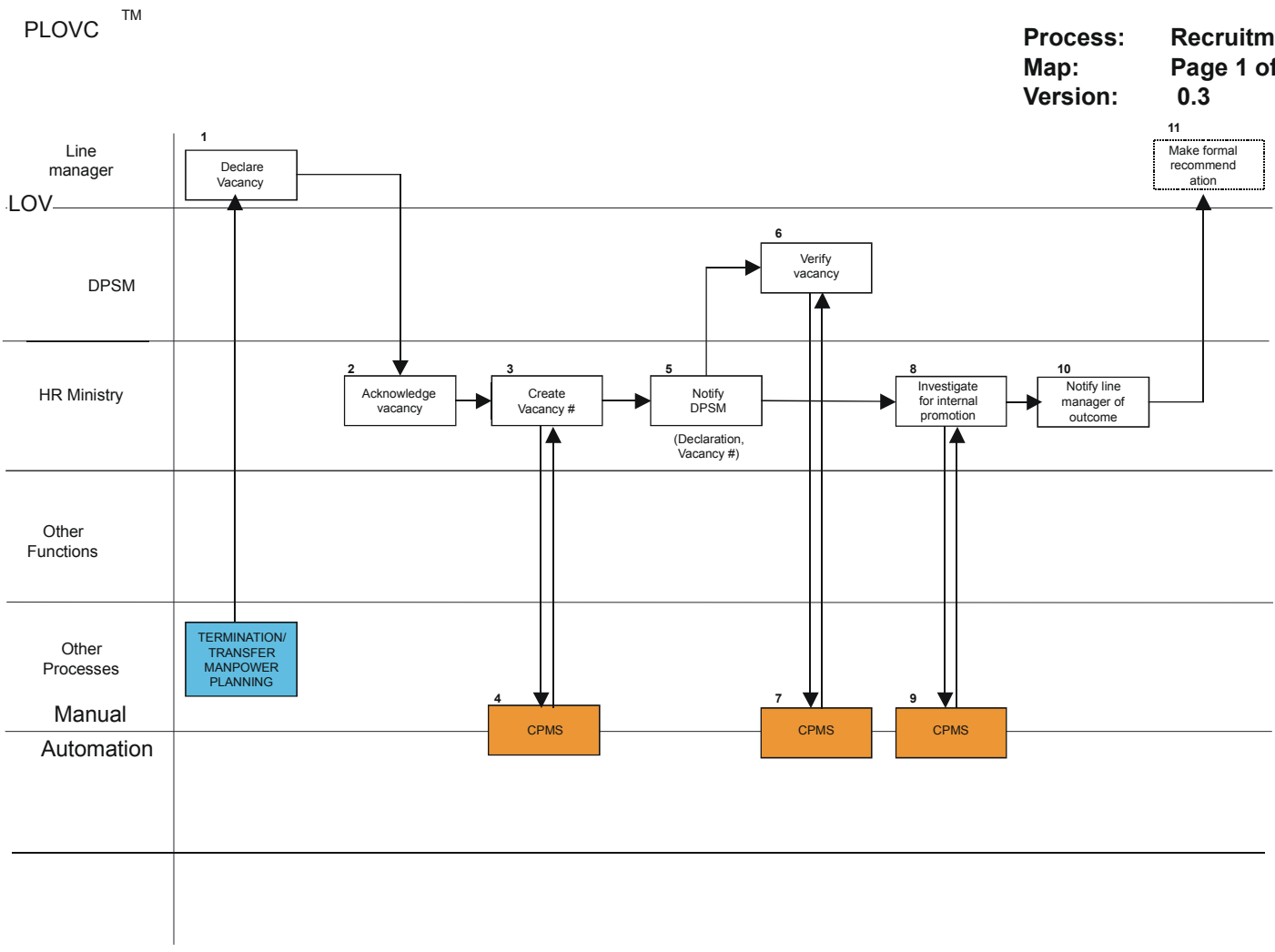
- developing and analysing the composition and characteristics of the labour force and public sector employment and maintaining an inventory of existing supply of manpower.
 - developing and maintaining profile studies of the public sector work force and keeping an up-to-date database on all manpower training and development programmes.
 - examining programmes offered by educational and training institutions in order to assess their output rate from which various training and educational institutions project future manpower availabilities, shortages and surpluses in terms of numbers, skill mix and timing.
 - producing detailed reports on public service manpower supply status for planning, development and deployment purposes.
- e) *Manpower Demand and Supply Balance*
- identifying shortages and surpluses on the basis of identified needs and assisting ministries/departments in the development and implementation of manpower training plans.
 - advising government on appropriate manpower allocation policy formulation strategies on the basis of current and projected levels of supply and demand.
 - developing appropriate criteria for allocation, deployment, utilisation and development of manpower among competing sectors of the economy.
 - reviewing the status and effectiveness of existing manpower policies, regulations and priorities and keeping user ministries and manpower development institutions informed of the manpower demand and supply situation and of the approved government allocation.
- f) *Public Service Annual Manpower Budgeting*
- developing sound public service annual manpower budgeting system and coordinating the implementation of the approved system
 - developing and maintaining an effective approach for assessing justifications for creation of public service posts or changes in the existing establishment.
 - maintaining up to date records of all public service approved posts and periodically evaluating the effectiveness of the budgeting system.
 - providing professional advice and guidance on all aspects of manpower planning and budgeting
- g) *Inventory of Public Service Manpower and Skills.*
- developing maintaining an effective public service human resource information system and database and job related statistical data on public sector manpower.
 - reviewing available data and liaising with users and generators of the data.
- h) *Establishment control, monitoring and production of the Establishment Register, which carries information on all the established posts in the Public Service by Ministry/Department, the salary scale and Geographical location.*

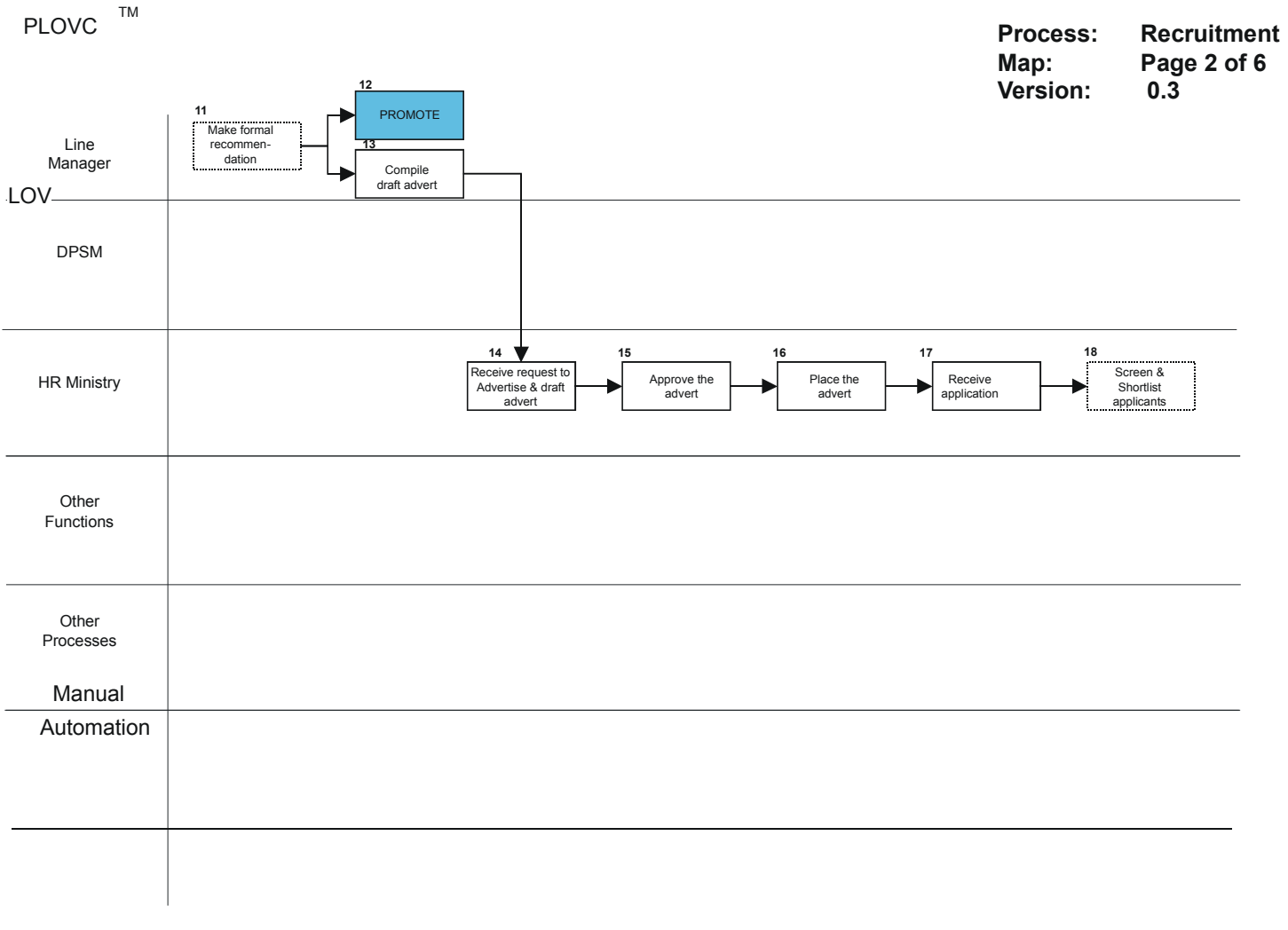
- i) *Ensuring effective management of the Manpower Planning Budgeting and Research Division*
- j) *For Manpower Planning Budgeting and Research Division to accomplish some of their duties as described above they needed to automate most of their record keeping. Out of this need arose the DPSM IT Strategy document which has led to the Computerised Personnel Management System (CPMS) project . The objectives of the project are :*
- implementing a Government wide computerised human resources management system that will become the hub of DPSM and Ministries daily operations; providing consistent and accurate information and services to all managers and staff involved in human resources activities;
 - maintaining inventory of all approved posts, personal data of officers in Government and establishing personal files for officers;
 - providing a networked infrastructure for the facilitation of Human Resource Management;
 - providing technical and procedural support to Ministries and Departments;
 - providing workflow management system;
 - implementing a document management system that will enable all Government officers to access policy documents from their PC's, e.g.
 - General Orders
 - Directives/Circulars
 - Public Service Act and Regulations
 - Schemes of Service

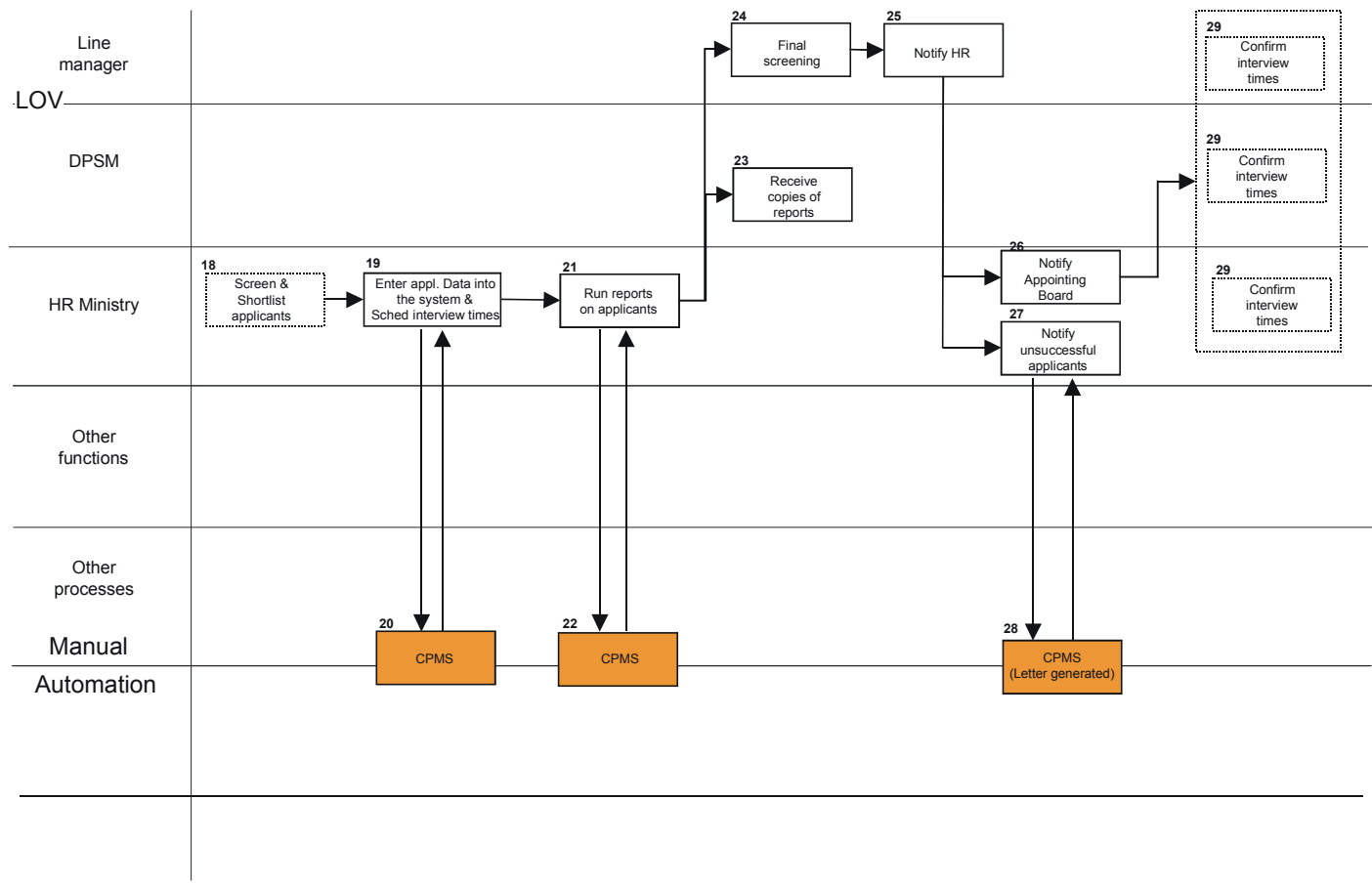
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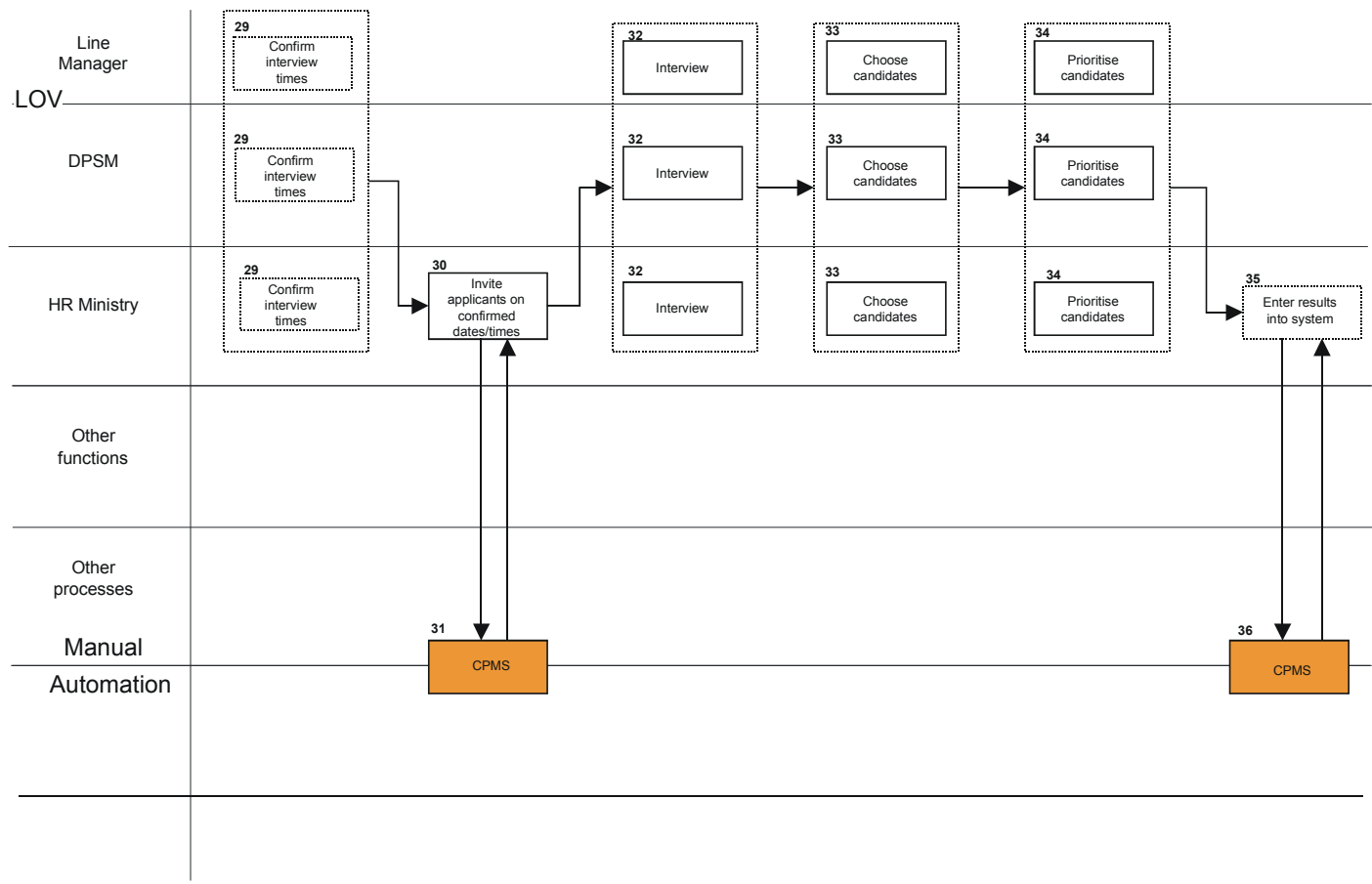
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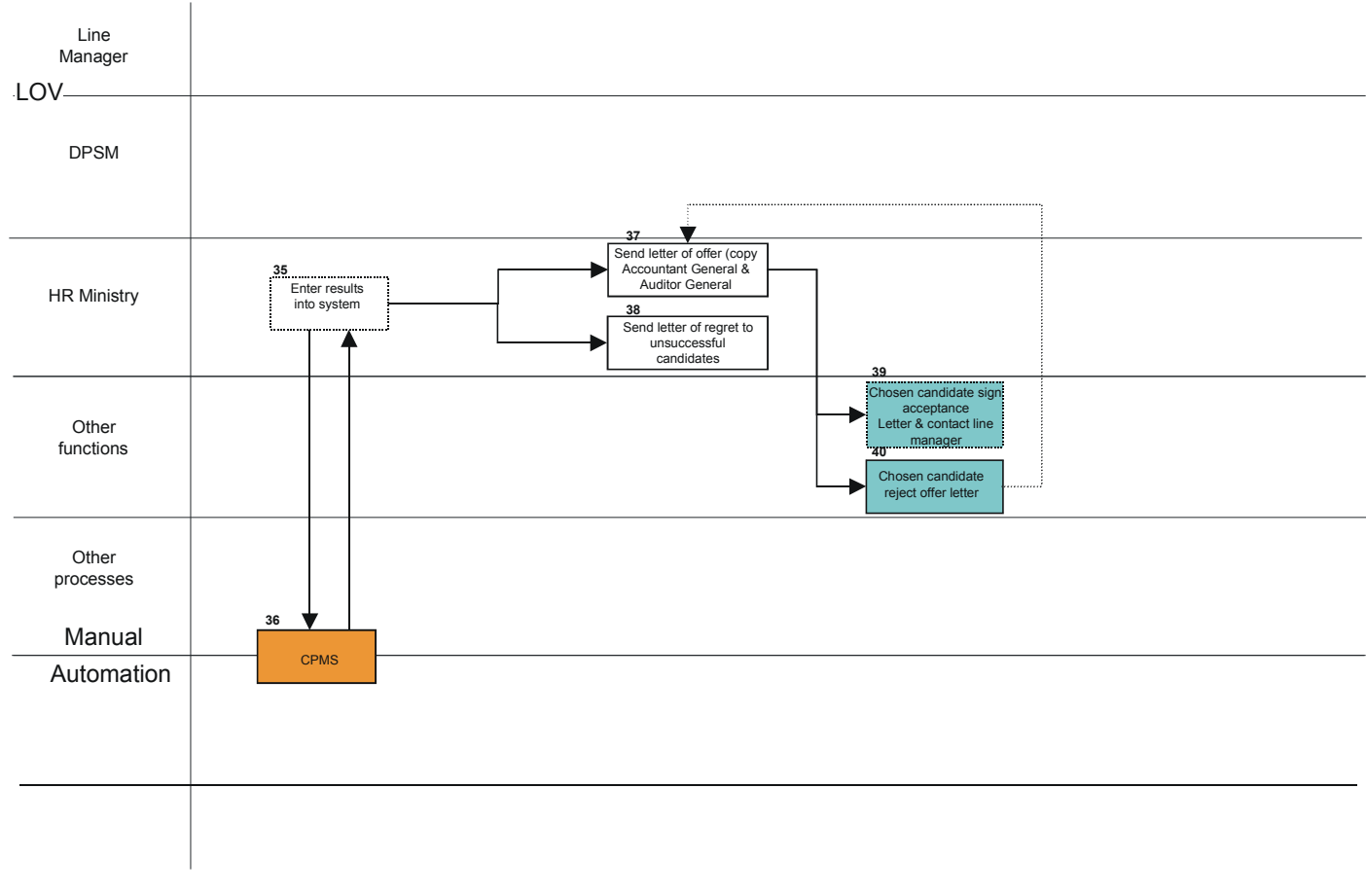
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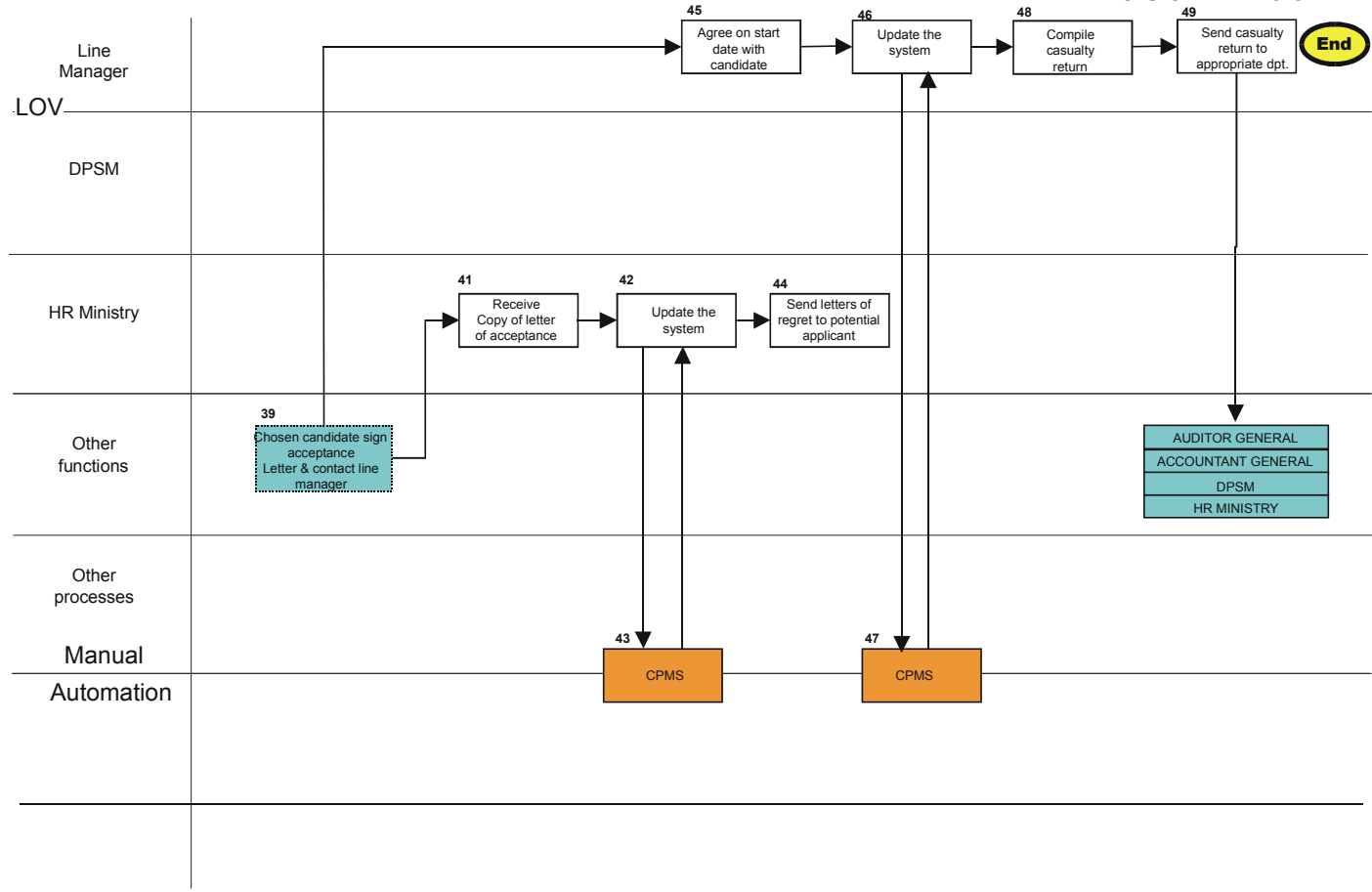






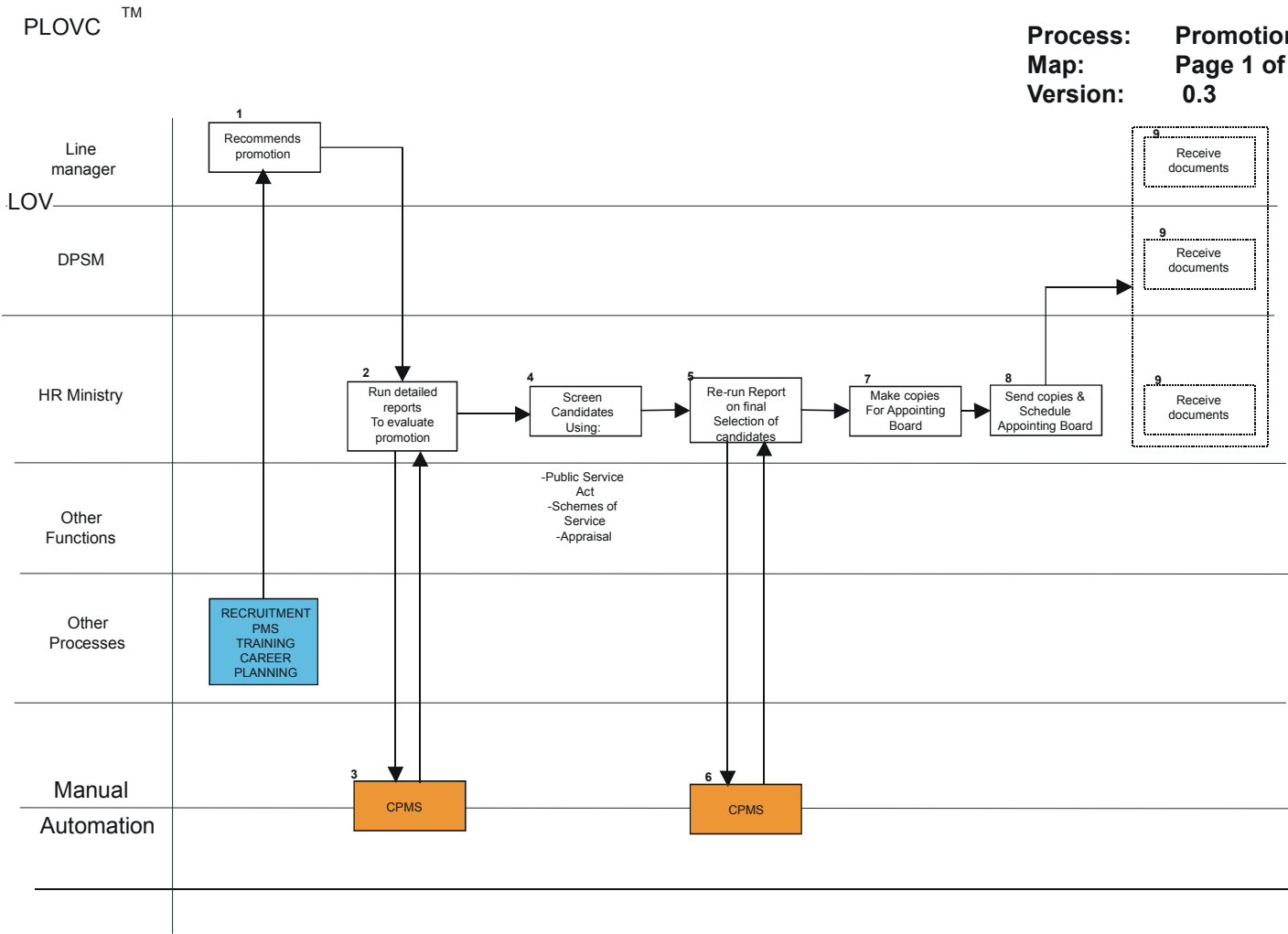


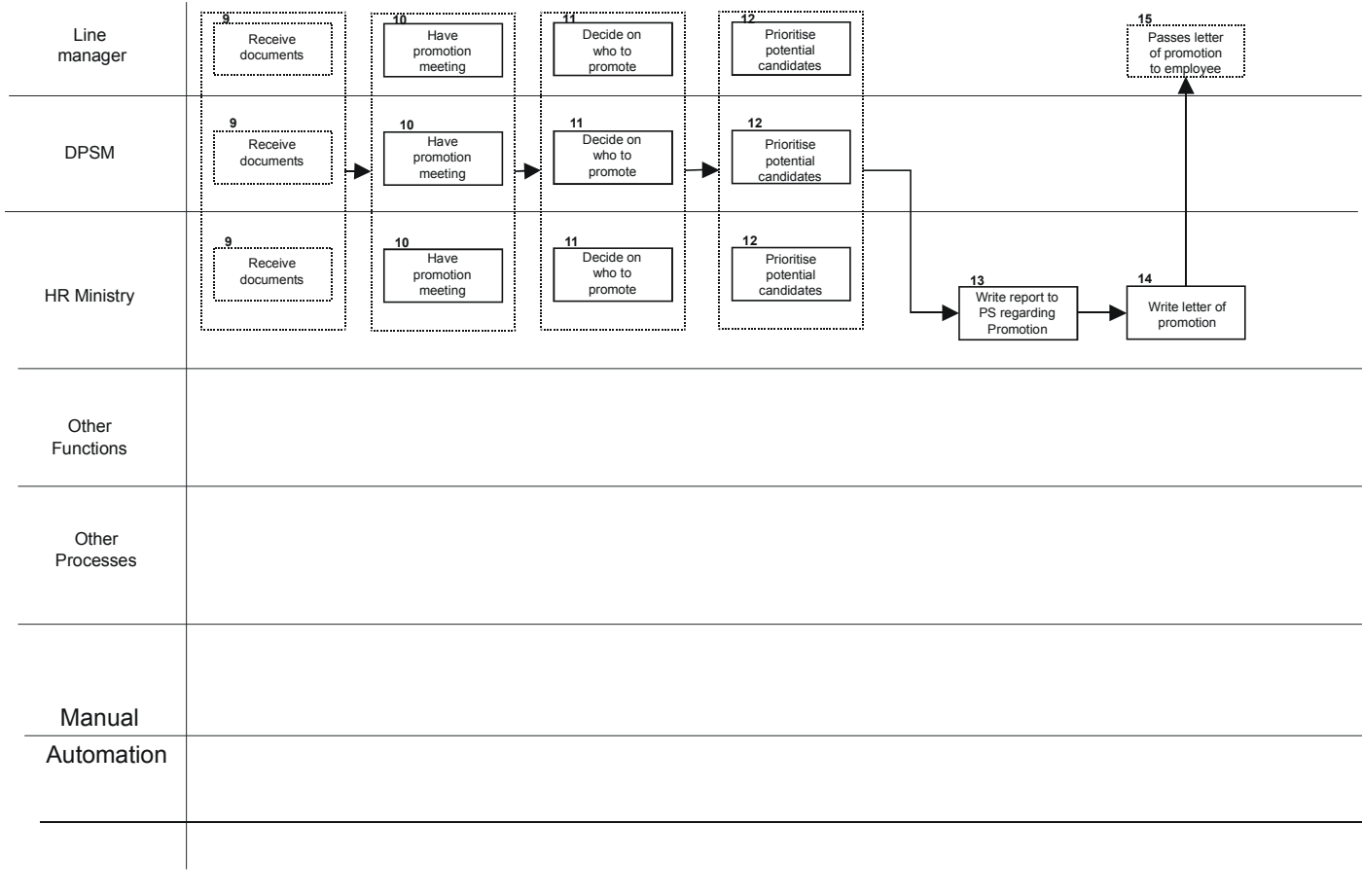


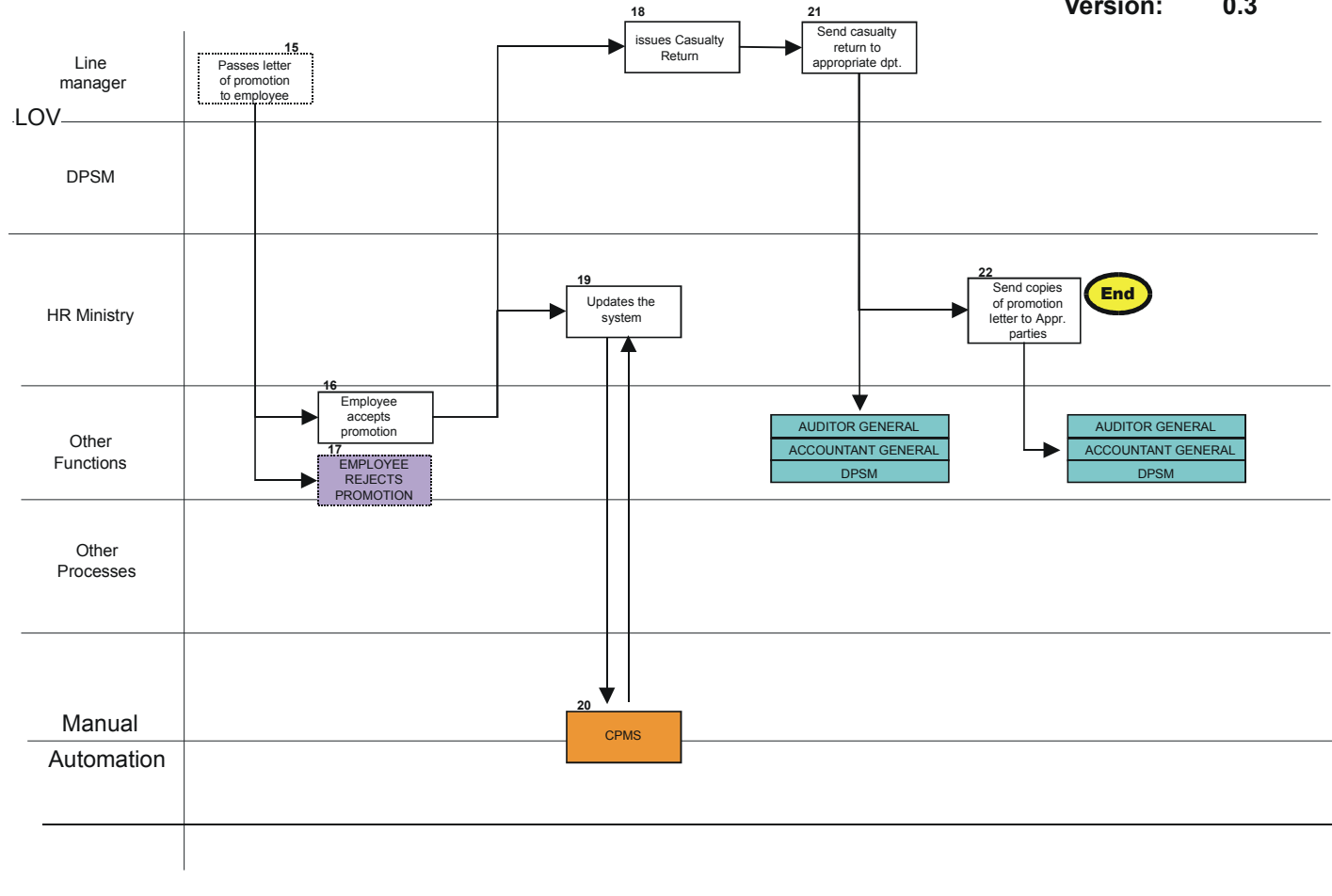


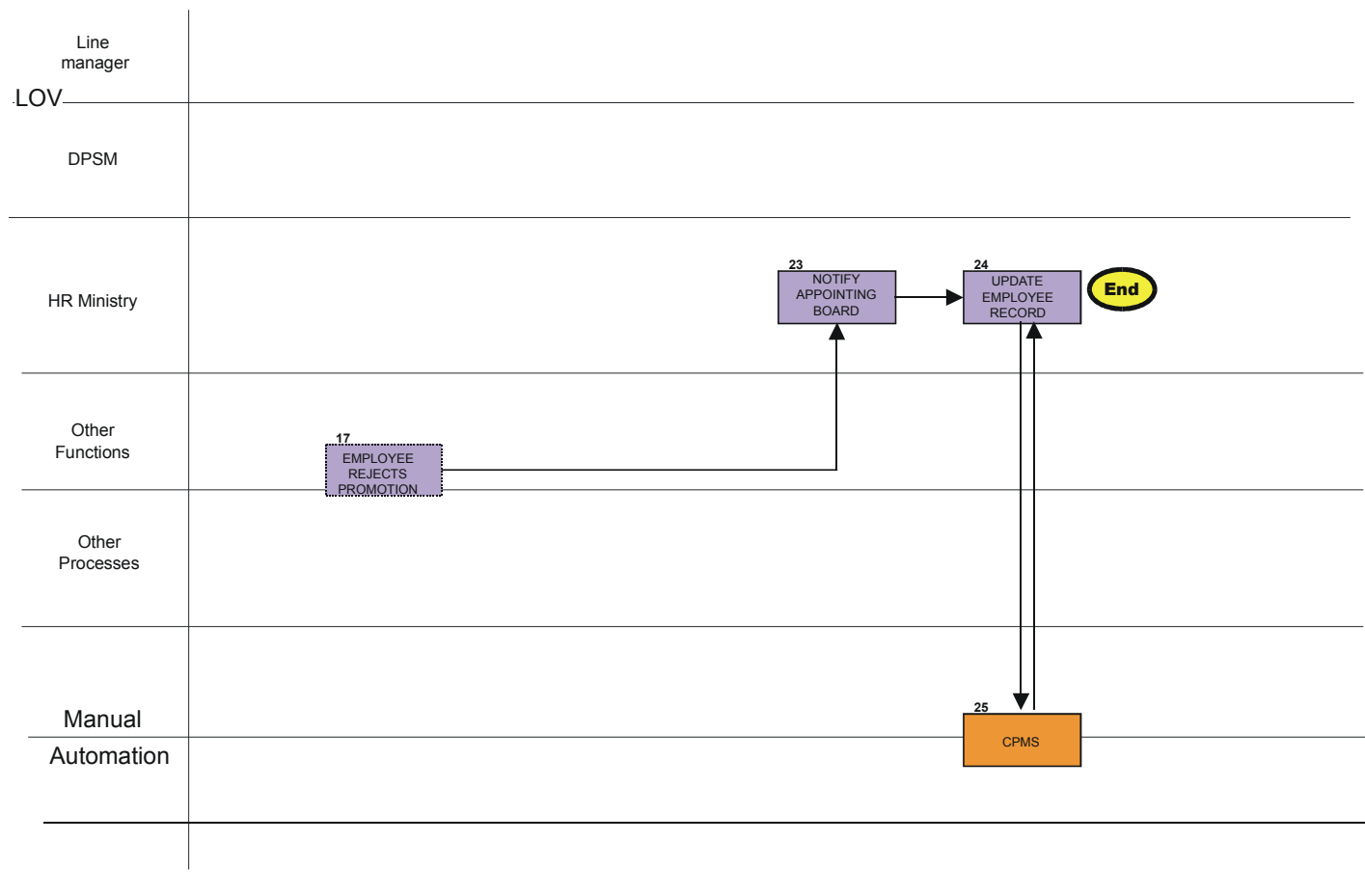
F.2.2 Promotions

Process: Promotions
 Map: Page 1 of 4
 Version: 0.3



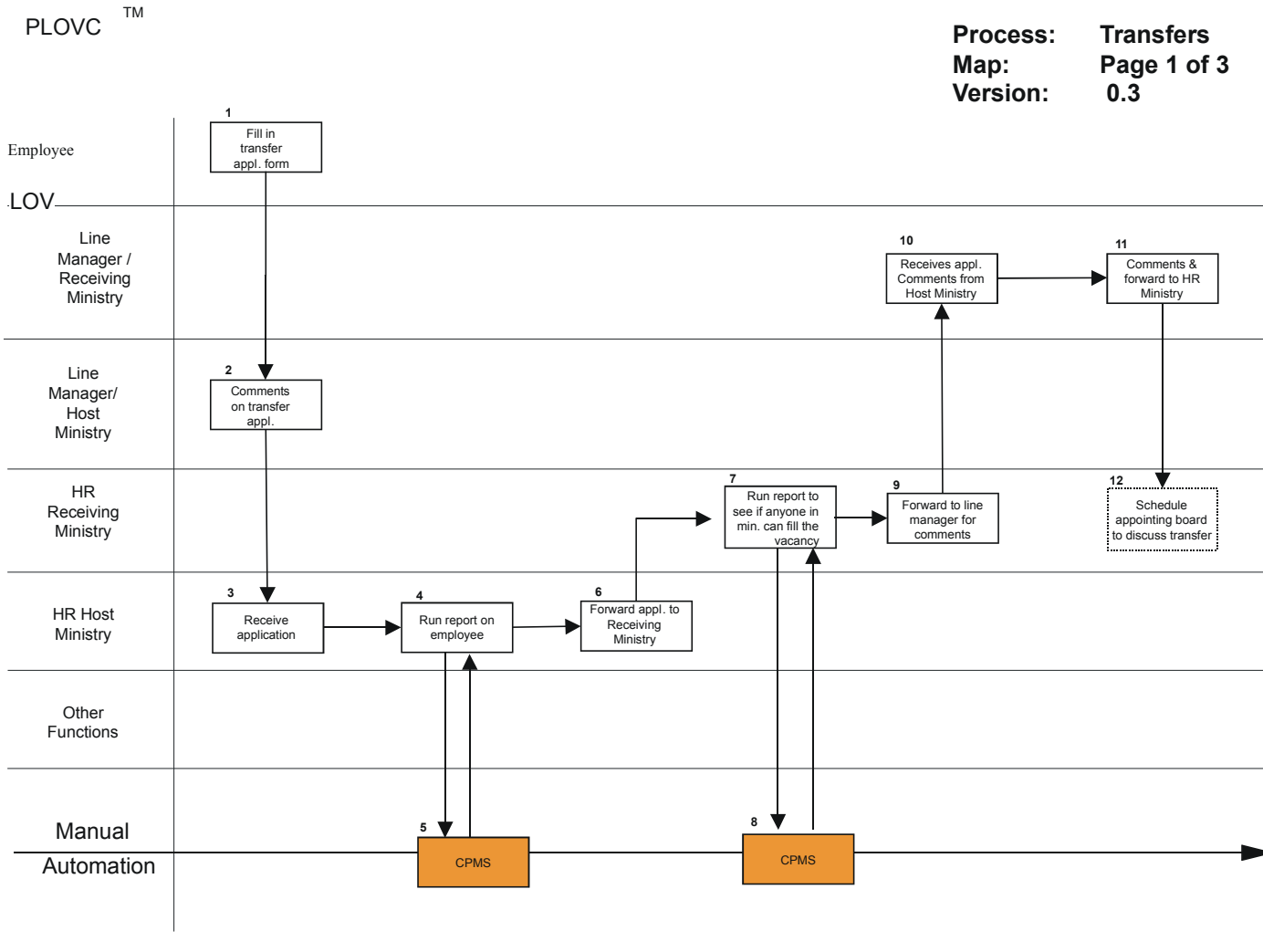






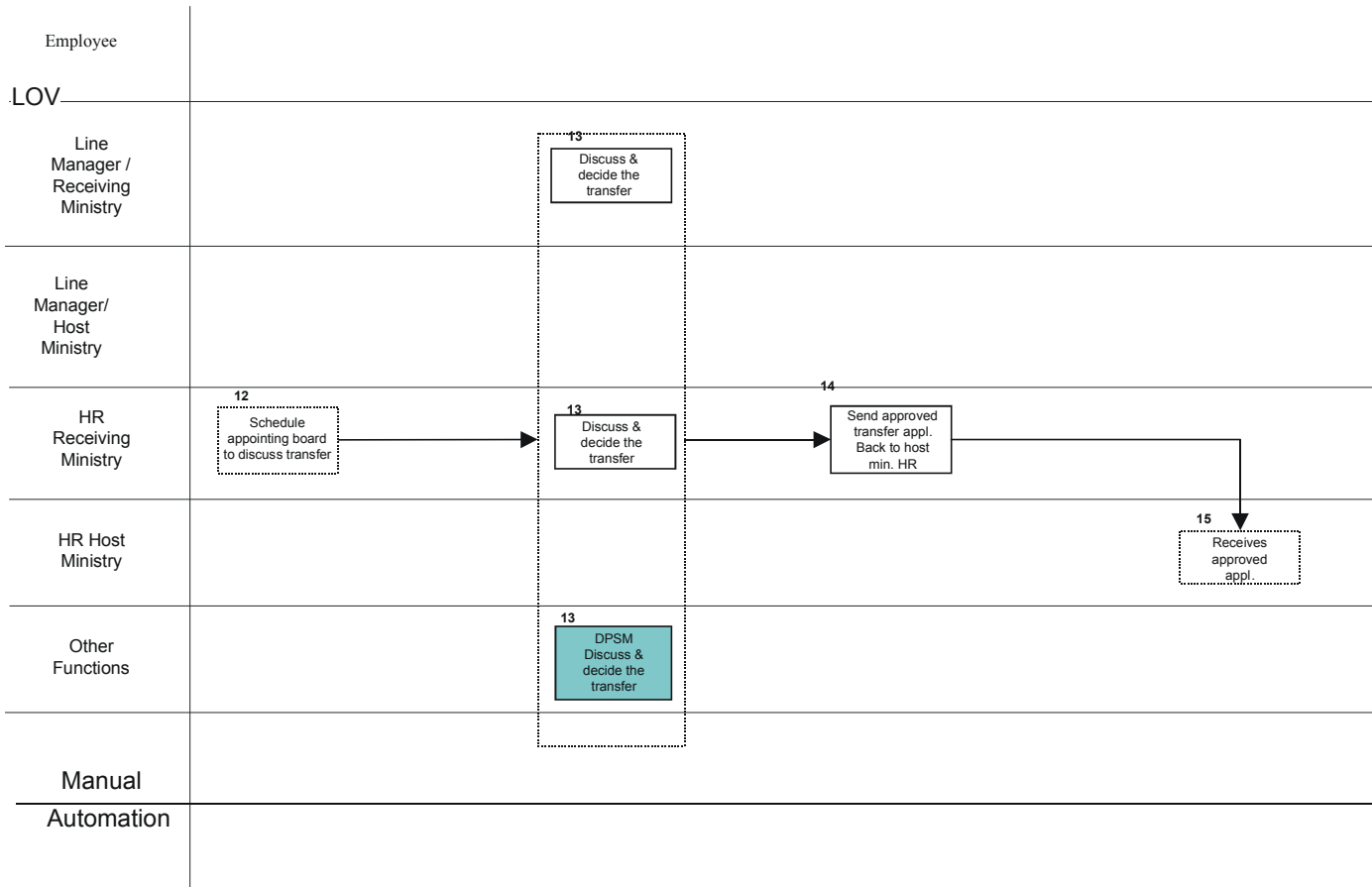
F.2.3 Transfers

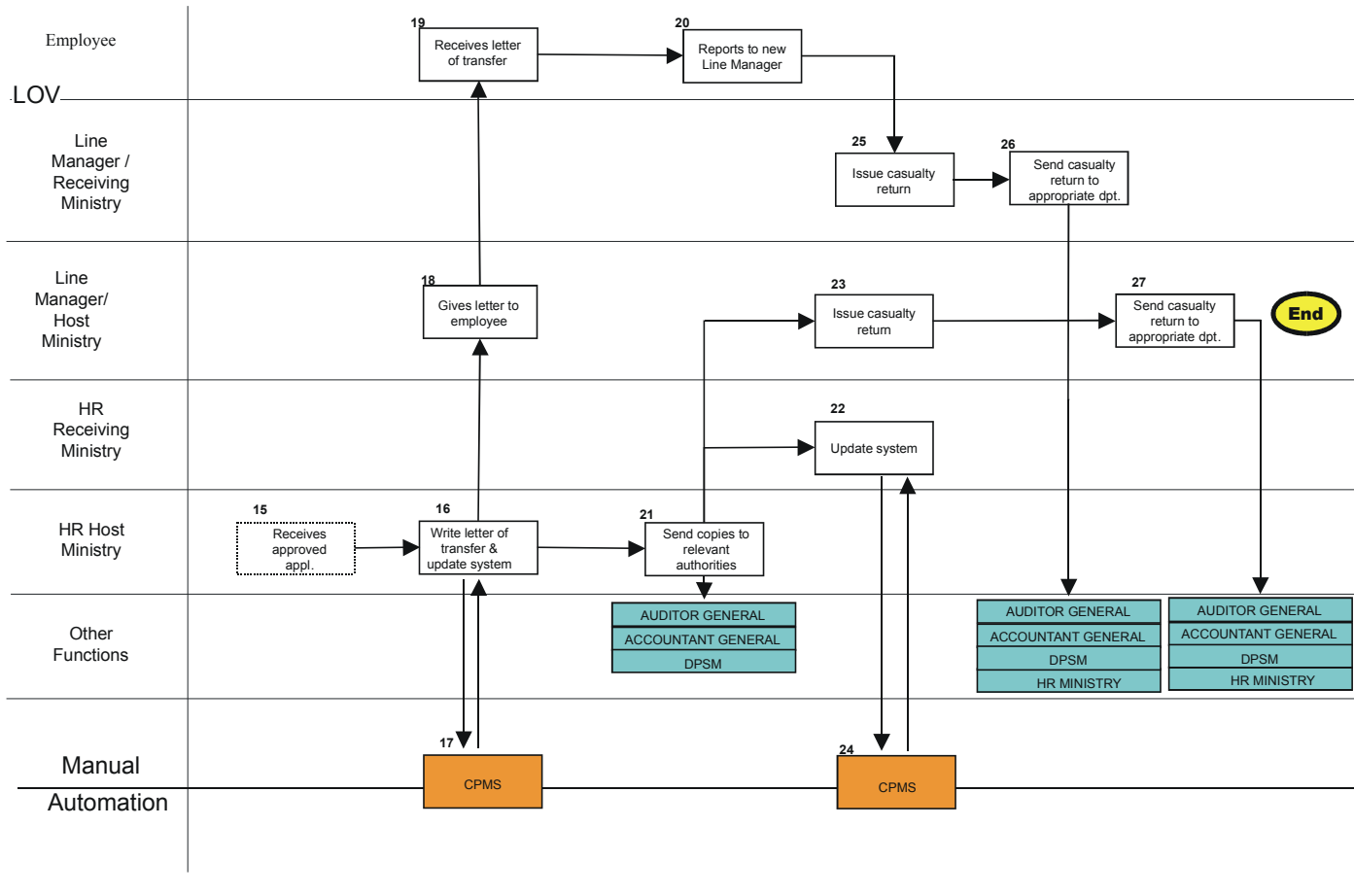
Process: Transfers
 Map: Page 1 of 3
 Version: 0.3



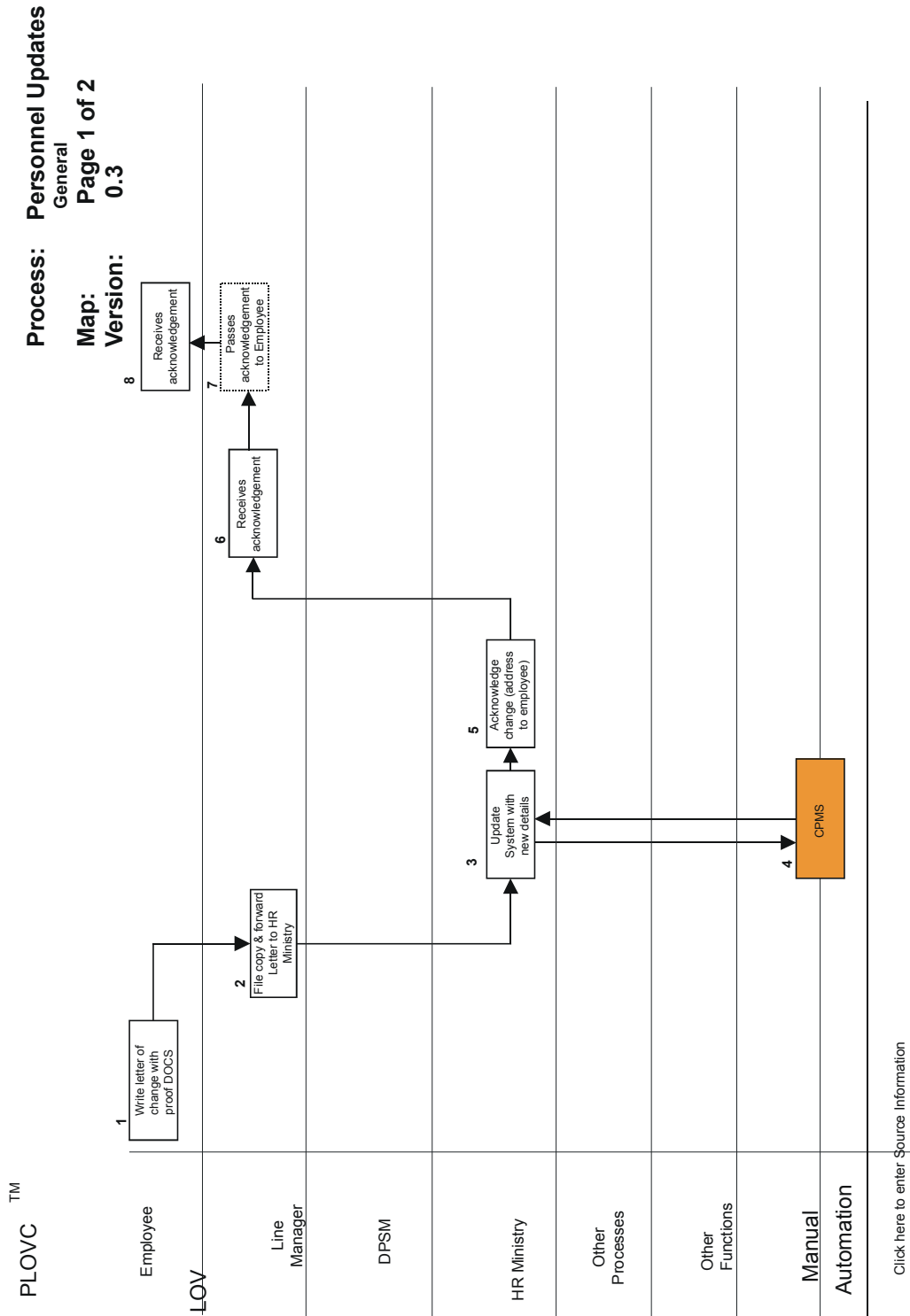
PLOVC TM

Process: Transfers
 Map: Page 2 of 3
 Version: 0.3



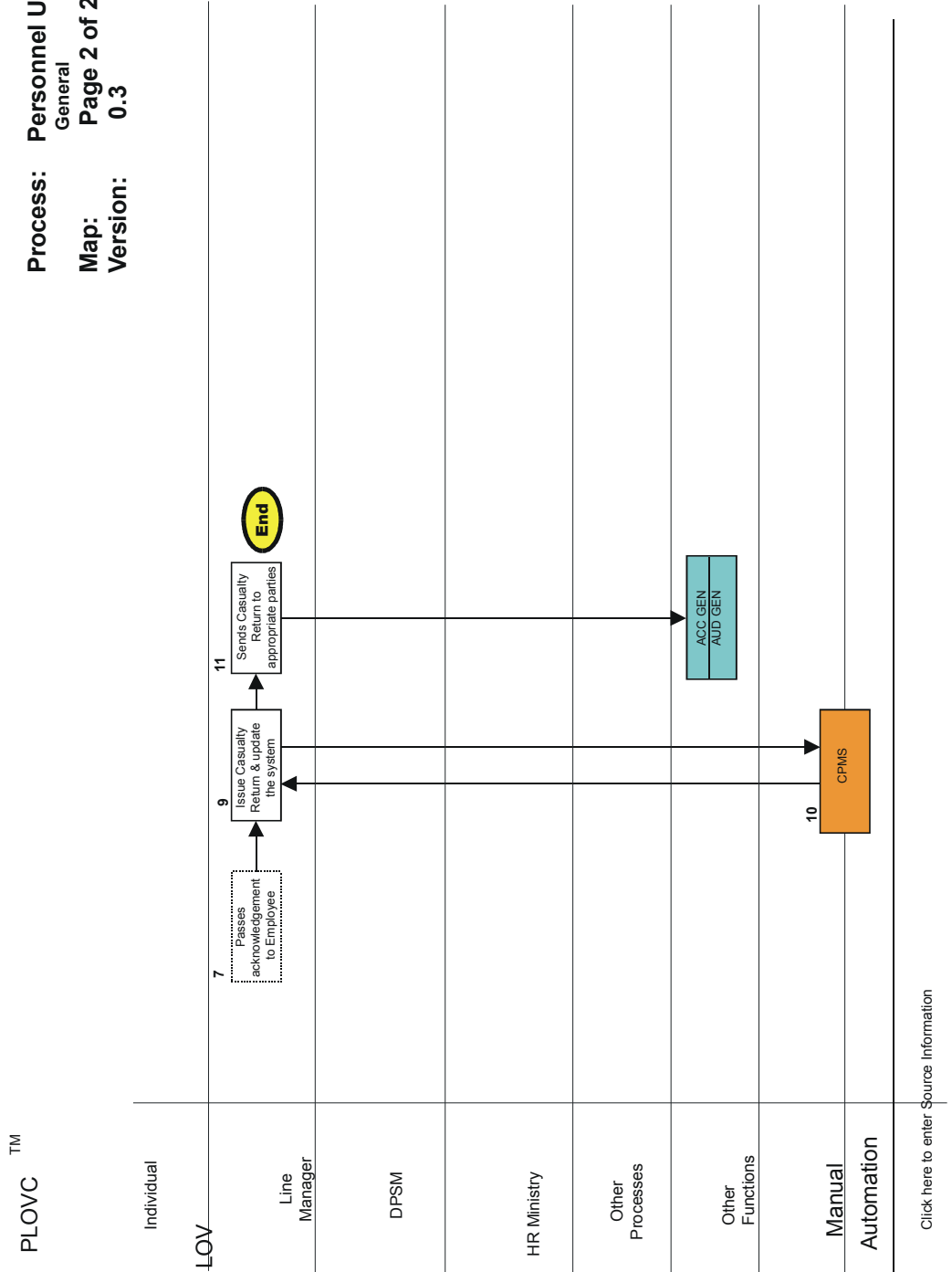


F.2.4 (1) Personnel Updates

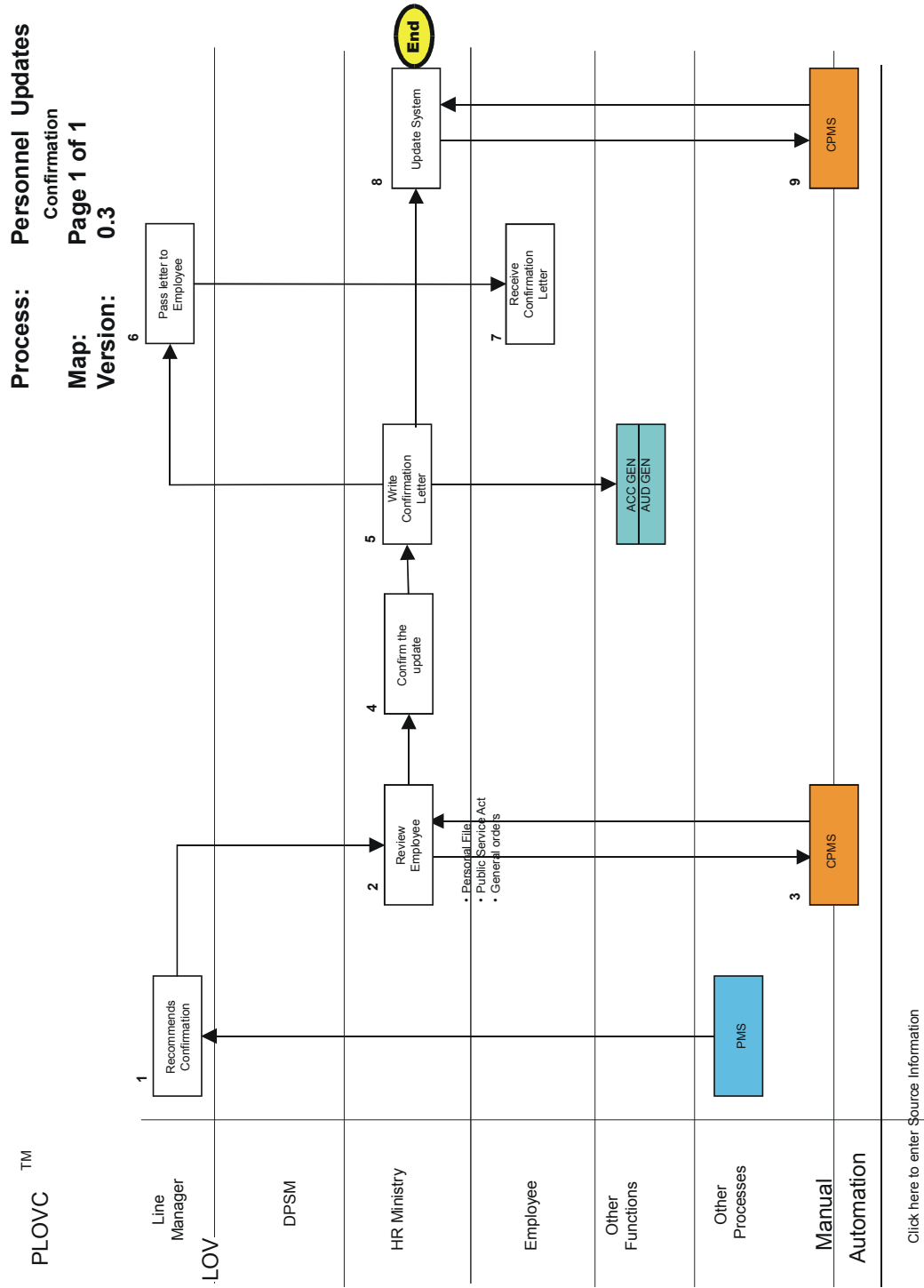


F.2.4 (2) Personnel Updates

Process: Personnel Updates
 General
 Map: Page 2 of 2
 Version: 0.3



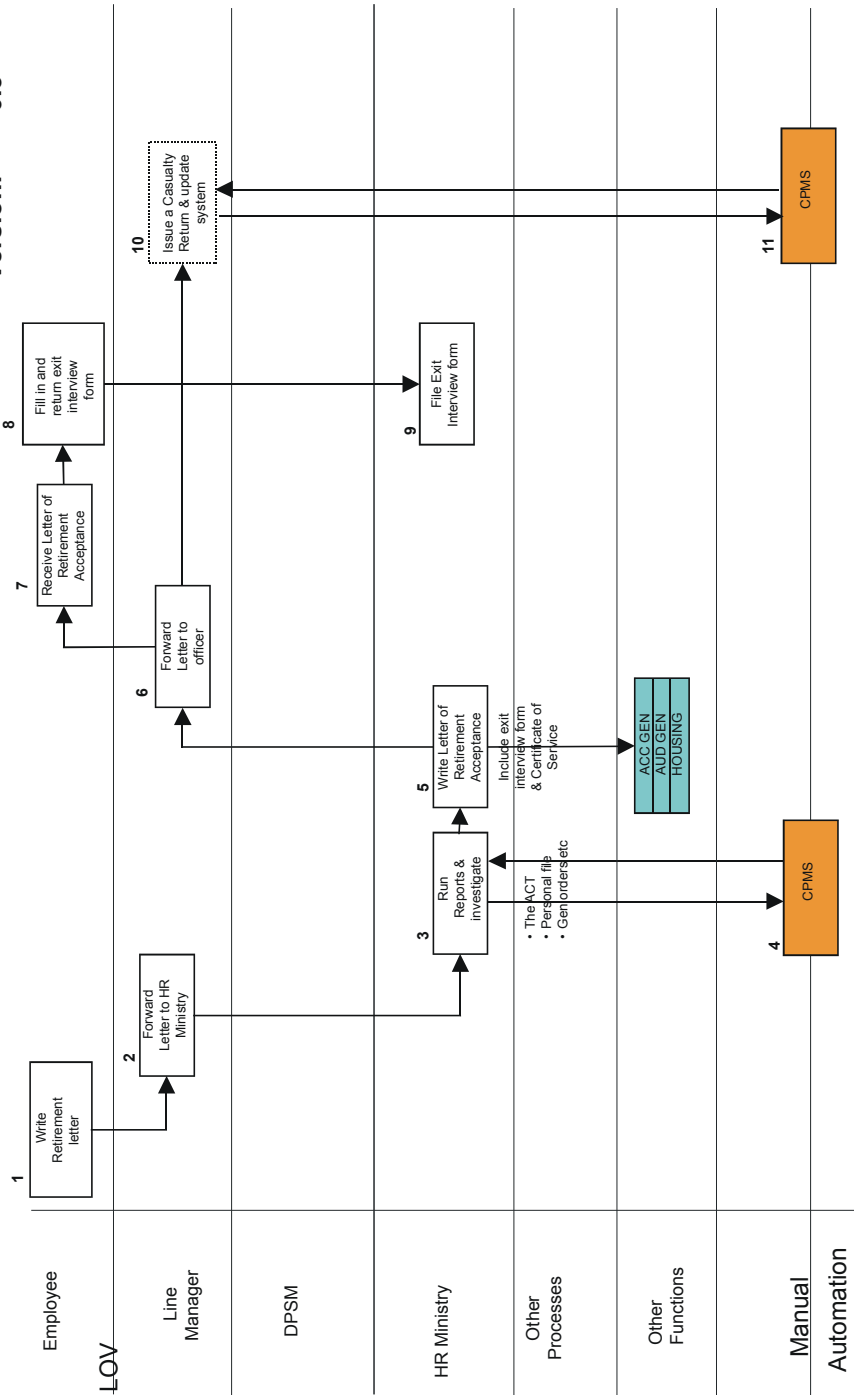
F.2.4 (3) Personnel Updates: Confirmation



F.2.5 (1) Termination: Retirement

Process: Termination Retirement
 Map: Page 1 of 2
 Version: 0.3

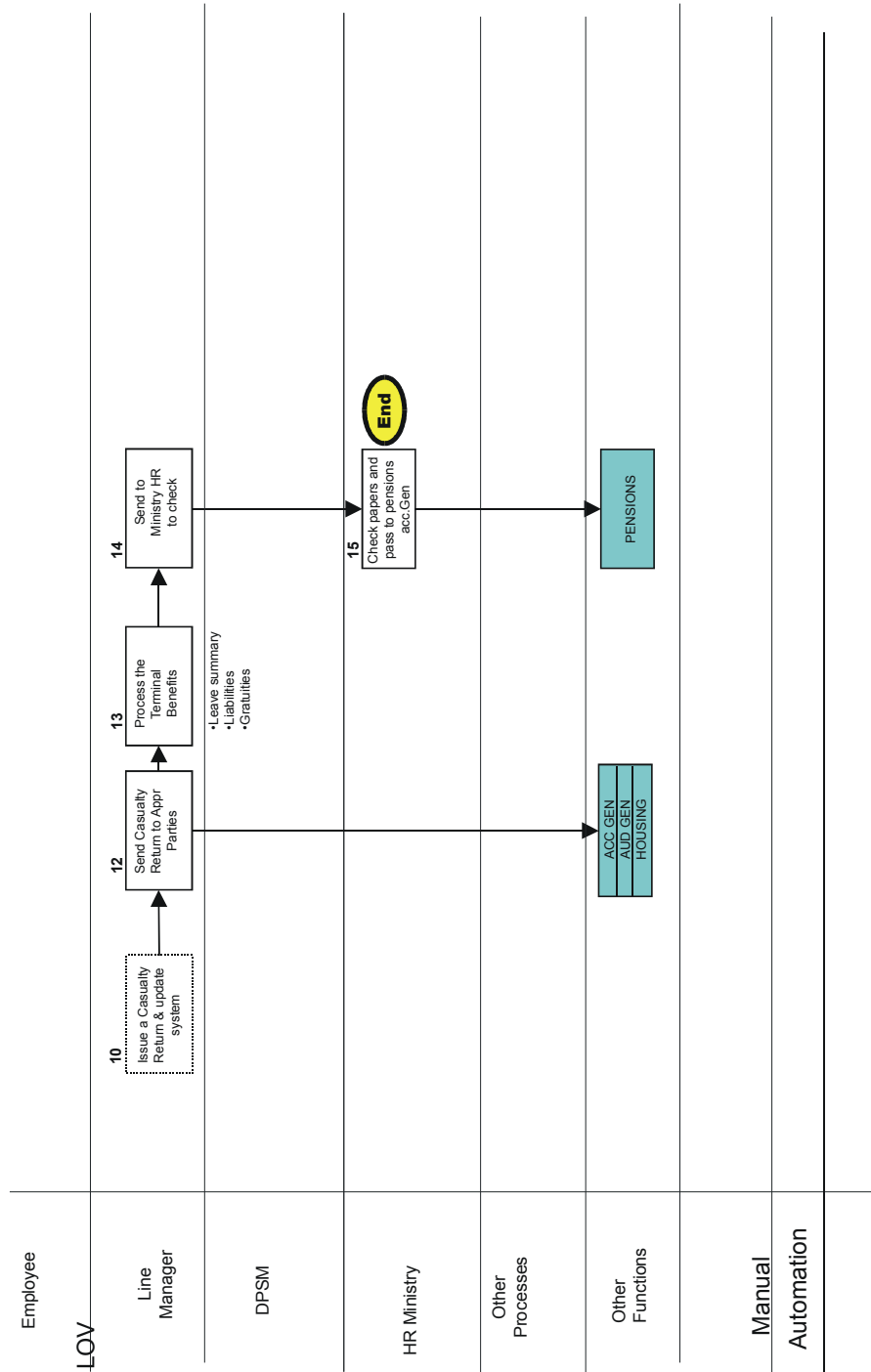
PLOVC™



F.2.5 (2) Termination: Retirement

Process: Termination Retirement
 Map: Page 2 of 2
 Version: 0.3

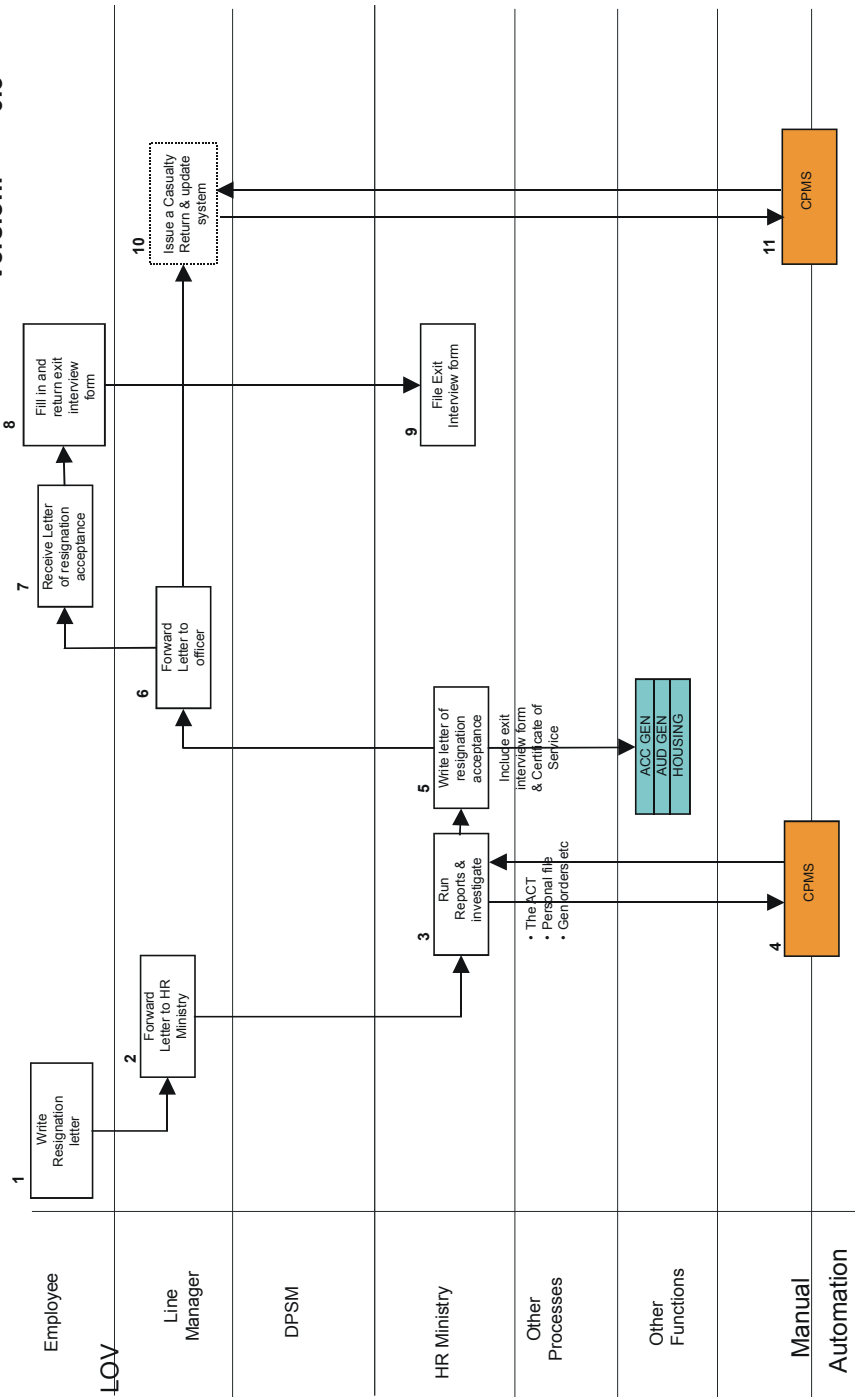
PLOVC™



F2.5 (3) Termination: Resignation

Process: Termination
 Resignation
 Map: Page 1 of 2
 Version: 0.3

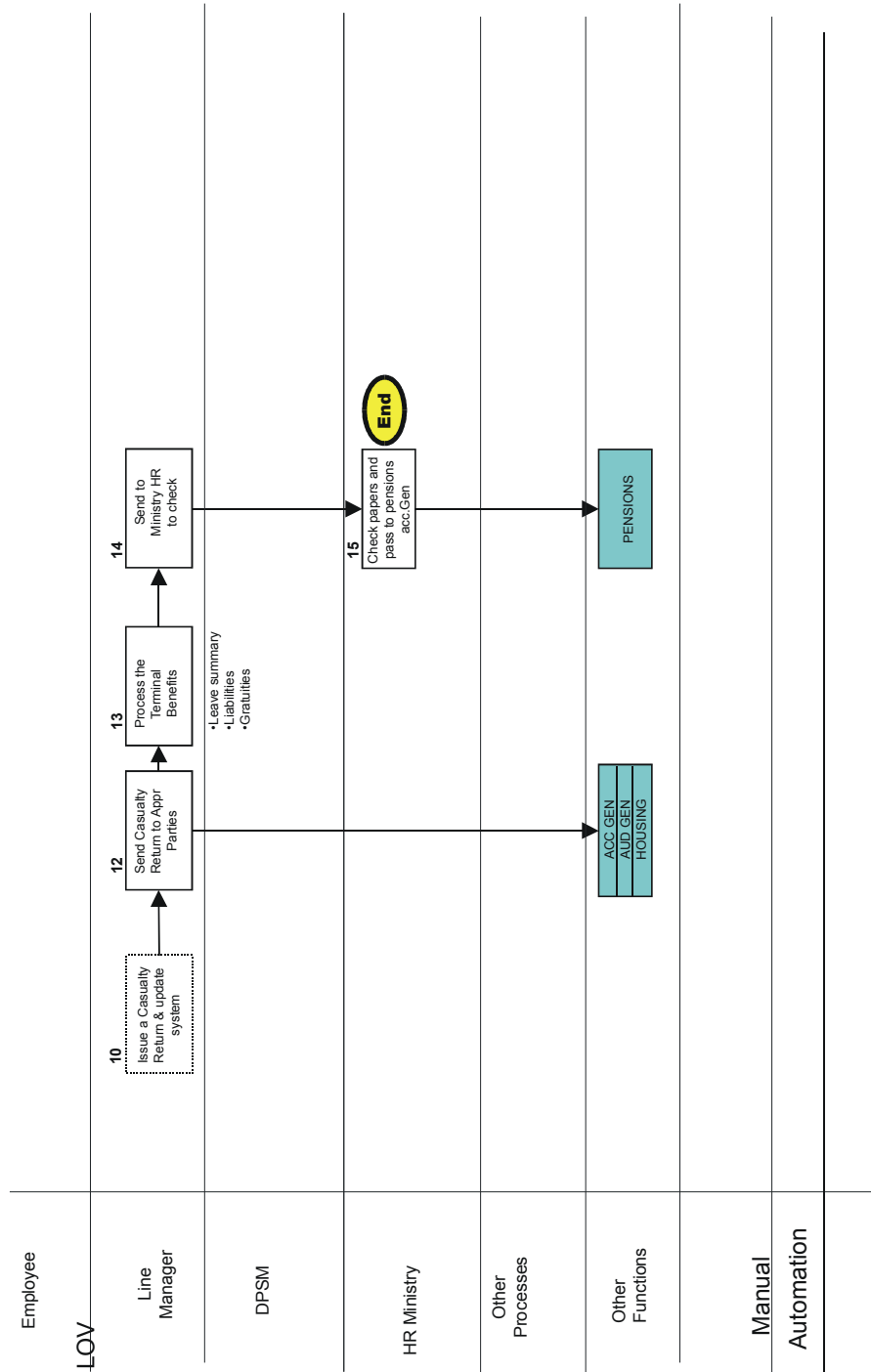
PLOVC™



F.2.5 (4) Termination: Resignation

Process: Termination
 Resignation
 Map: Page 2 of 2
 Version: 0.3

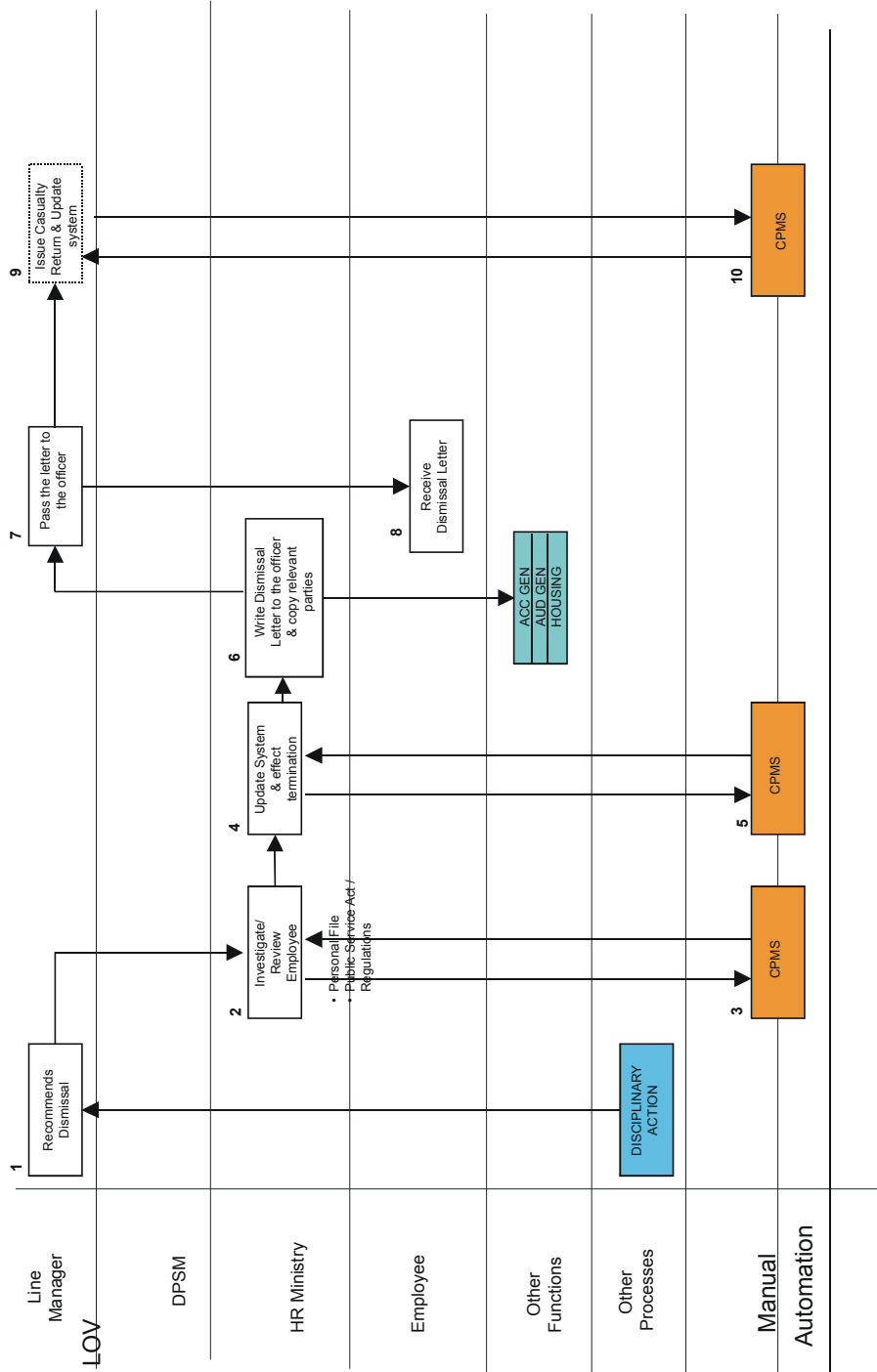
PLOVC™



F2.5 (5) Termination: Dismissal

Process: Termination
Dismissal
Map: Page 1 of 2
Version: 0.3

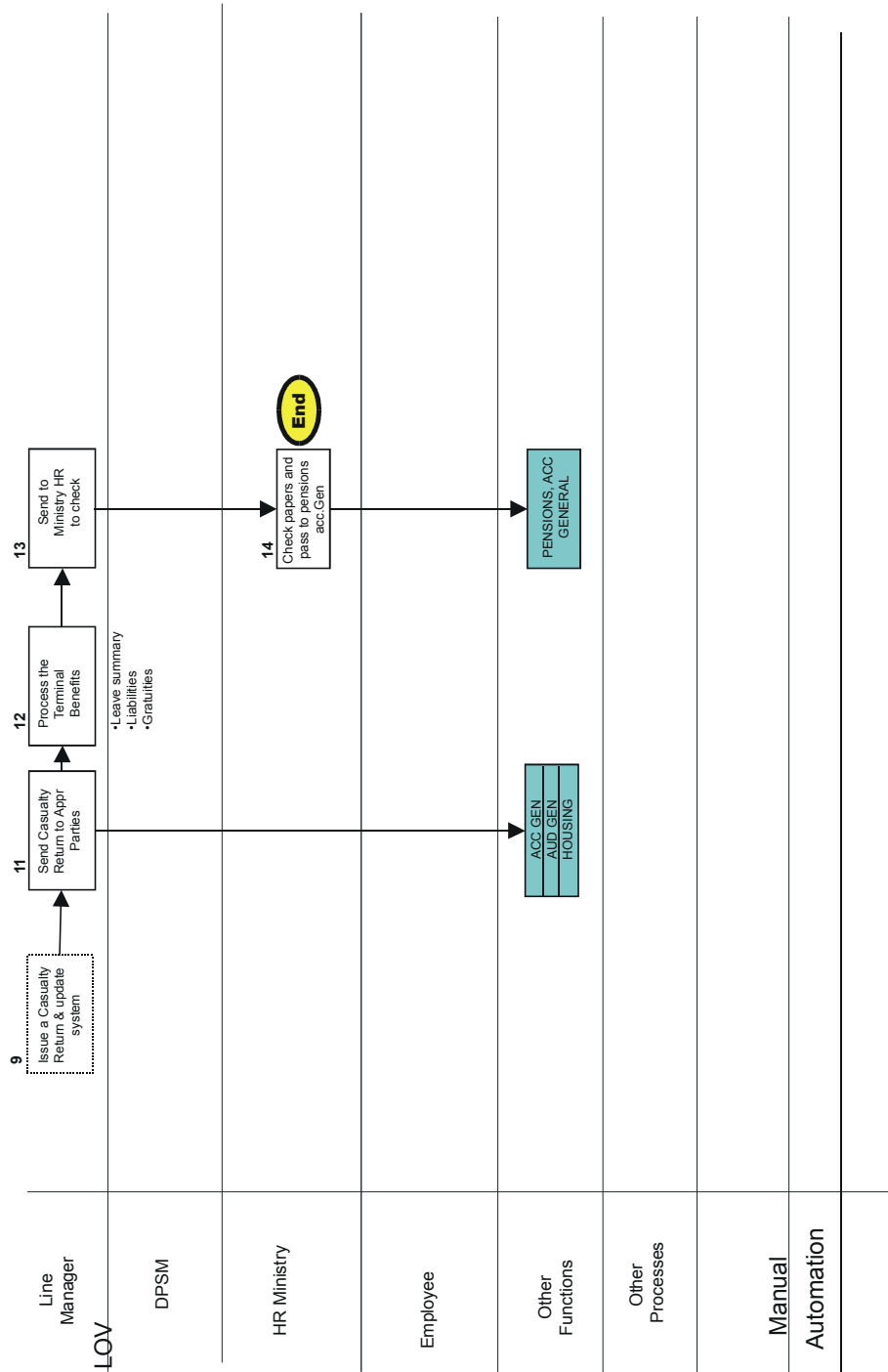
PLOVC™



F2.5 (6) Termination: Dismissal

Process: Termination
 Dismissal
 Map: Page 2 of 2
 Version: 0.3

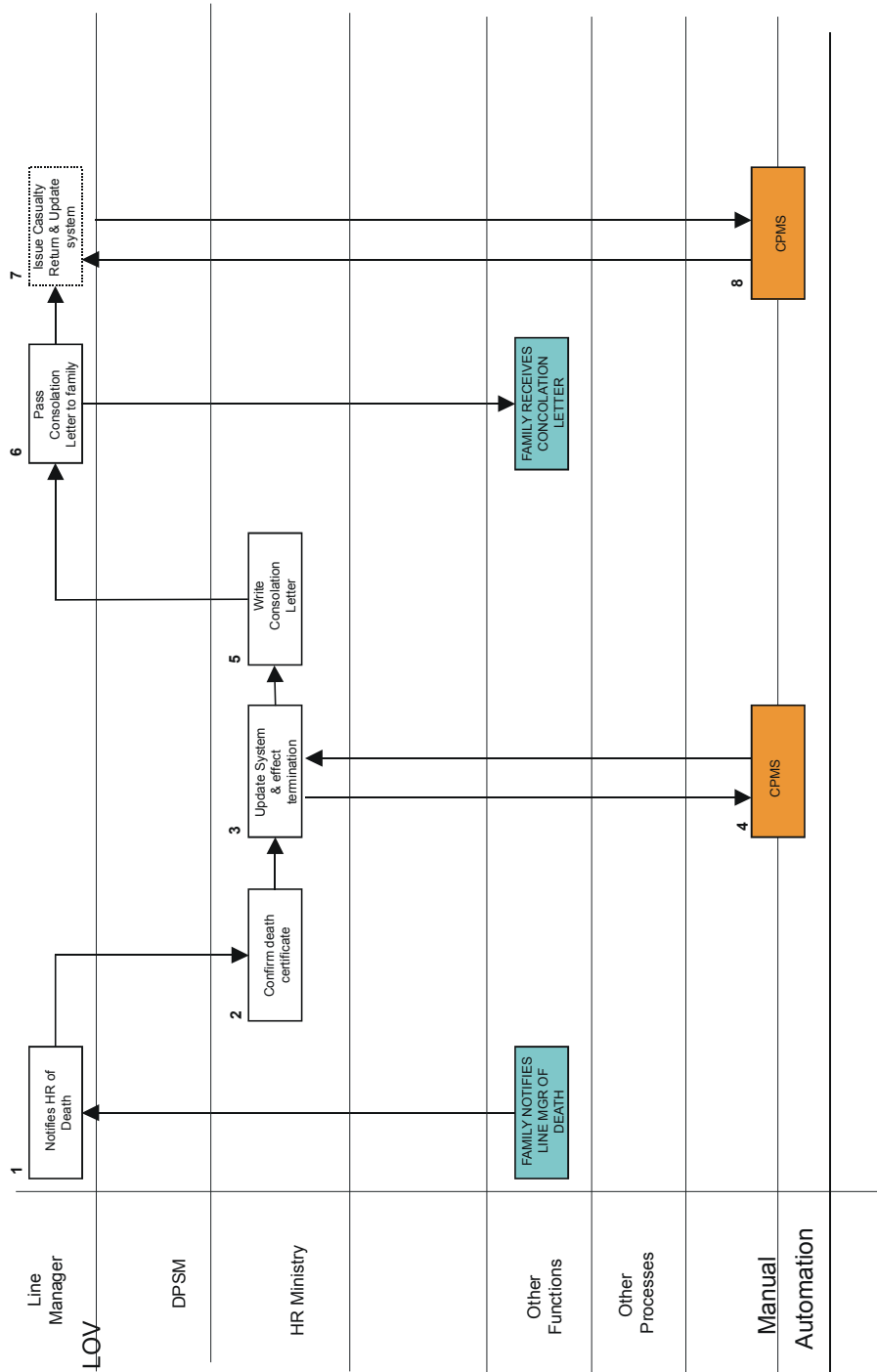
PLOVCTM



F2.5 (7) Termination: Death

Process: Termination
 Map: Death
 Version: Page 1 of 2
 0.3

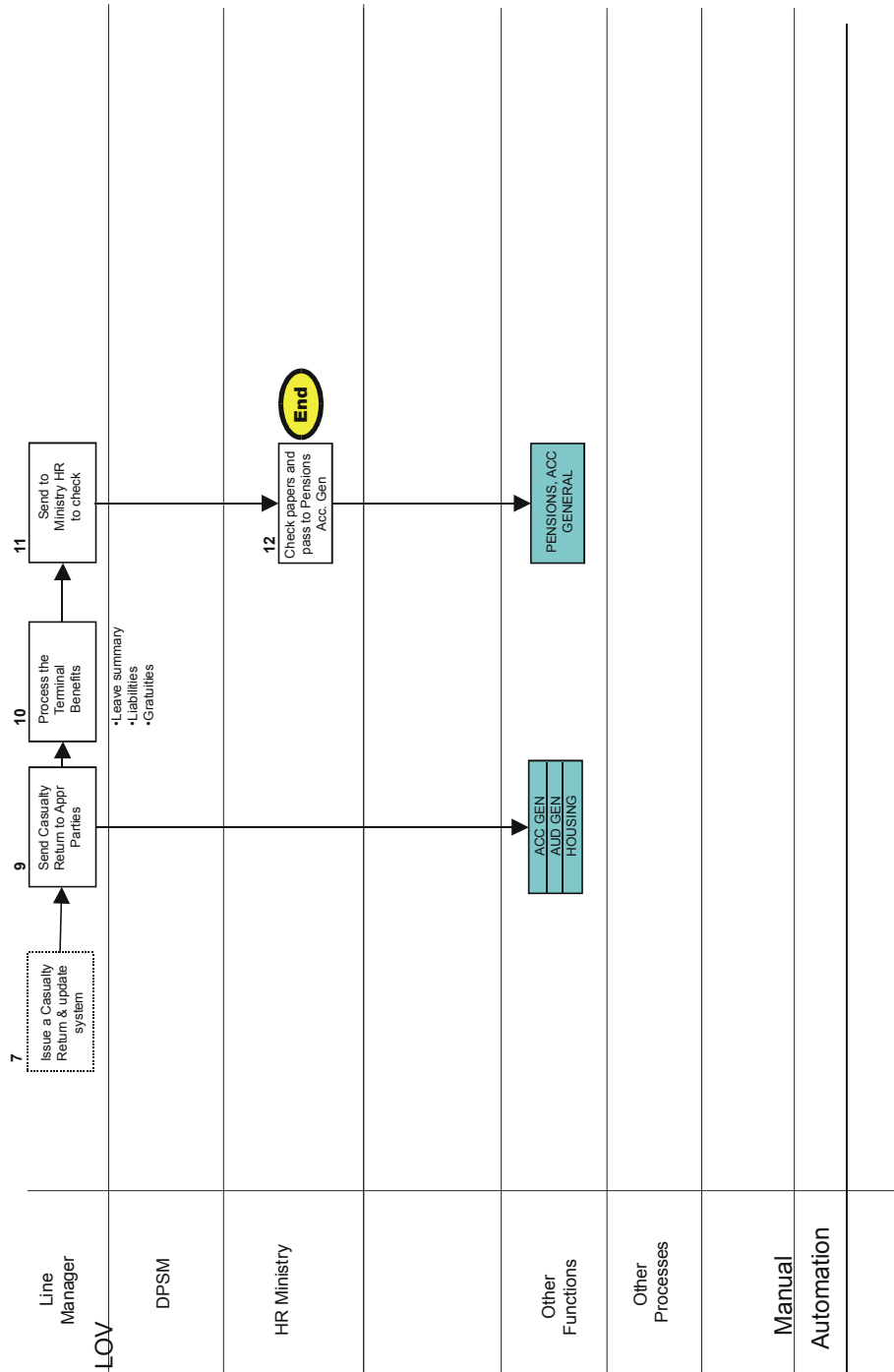
PLOVC™



F2.5 (8) Termination: Death

Process: Termination
 Death
 Map: Page 2 of 2
 Version: 0.3

PLOVCTM



Appendix G

G.1 Structural Equations with proc calis

G1.1 Cronbach Coefficient Alpha

Cronbach Coefficient Alpha with Deleted Variable					
Deleted Variable	Raw Variables		Standardized Variables		Label
	Correlation with Total	Alpha	Correlation with Total	Alpha	
v2	0.5210	0.961	0.526	0.96196	ORGANISE INFORMATION
v8	0.7463	0.958	0.7360	0.95785	AWARENESS OF KM
v9	0.8144	0.955	0.8131	0.9563	LOST OF BEST PRACTICE IN SPECIFIC AREA
v10	0.8271	0.955	0.831936	0.955933	DAMAGE TO KEY CLIENT/SUPPLIER RELATIONSHIP
v11	0.9090	0.953	0.9161	0.9542	LOSS OF SIGNIFICANT INCOME
v12	0.8137	0.956	0.8215	0.9561	LOSS OF VITAL INFORMATION
v13	0.8392	0.955	0.838	0.95580	EMPLOYEES PROVIDED WITH RESOURCES
v14	0.8931	0.954	0.8892	0.95477	VALUE KNOWLEDGE ABOUT OWN CUSTOMERS
v15	0.9278	0.953149	0.929753	0.953944	VALUE KNOWLEDGE ABOUT OWN MARKET
v18	0.8929	0.9537	0.890	0.95475	VALUE KNOWLEDGE ON EMPLOYEES SKILLS
v20	0.8448	0.9548	0.8356	0.95586	VALUE KNOWLEDGE ON METHODS & PROCESSES
v36	0.7464	0.9575	0.7423	0.95773	INTRANET INFRASTRUCTURE IMPLEMENTED FOR KM SUPPORT
v42	0.7093	0.958135	0.710523	0.958359	STRATEGY IS IMPORTANT FOR KM INITIATIVE
v76	0.3532	0.963541	0.352889	0.9652	COMPONENT INTERACTION BETWEEN TECHNOLOGIES

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v94	0.7238	0.9581	0.7067	0.95843	SATISFACTION
-----	--------	--------	--------	---------	--------------

G.1.2 CFA Syntax for Measurement model

```
/* ----- Measurement Model ----- */
Libname dat "E:\Documents\Harold Data\Research\";
/*----- SYNTAX FOR COMINED MEASUREMENT MODEL -----*/
DATA D1 (TYPE=CORR);
/*INFILE 'E:\Documents\Harold Data\Research\data1.xls';*/
INPUT _TYPE_ $ _NAME_ $ V21 V24 V25 V27 V29 V41 V42 V55 V86 V94
      S1-S13;

LABEL
V21 = "Store knowledge on customers" V24 = "Store knowledge on
competitors' markets"
V25 = "Store knowledge on employees skills" V27 = "Store
knowledge on methods and processes"
V29 = "Intranet infrastructure implemented in organisation" V41 =
      "Extranet support infrastructure implemented for KM"
V42 = "Strategy is important for KM initiative" V55 =
      "Willingness to share knowledge "
V86 = "Process Adoption " V94 = "Satisfaction " S1 = "BI v63 &
v64" S2 = "BI v53 v54 & v58"
S3 = "BI v68 & v71" S4 = "BI v43 & v44" S5 = "AG v16 & v17" S6 =
      "AG v76 & v77"
S7 = "AG v81 & v82 & v84" S8 = "OL v3 v8-v13" S9 = "OL v14 v15
v18 & v20"
S10 = "OL v36 v76" S11 = "v46 v52" S12 = "v85 v90 v92" S13 = "v32
v35";

PROC CALIS COVARIANCE CORR RESIDUAL MODIFICATION ;
LINEQS
/*----- BI = Factor 1 (F1) -----*/
S1 = LS1F1 F1 + E1,
S2 = LS2F1 F1 + E2,
S3 = LS3F1 F1 + E3,
S4 = LS4F1 F1 + E4,
V86 = L86F1 F1 + E86,

/*----- AG = Factor 2 (F2) -----*/
S5 = LS5F2 F2 + E5,
S6 = LS6F2 F2 + E6,
S7 = LS7F2 F2 + E7,
V41 = LV41F2 F2 + E41,
V55 = LV55F2 F2 + E55,

/*----- SC = Factor 3 (F3) -----*/
V21 = LV21F3 F3 + E21,
V24 = LV24F3 F3 + E24,
V25 = LV25F3 F3 + E25,
V27 = LV27F3 F3 + E27,

/*----- OL = Factor 4 (F4) -----*/
S8 = LS8F4 F4 + E8,
S9 = LS9F4 F4 + E9,
S10 = LS10F4 F4 + E10,
V42 = LV42F4 F4 + E42,
V94 = LV94F4 F4 + E94,

/*----- HK= Factor 5 (F5) -----*/
S11 = LS11F5 F5 + E11,
S12 = LS12F5 F5 + E12,
S13 = LS13F5 F5 + E13,
```

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V29 = LV29F5 F5 + E29;

STD /* ----- VARIANCE ESTIMATES ----- */

F1 = 1,
F2 = 1,
F3 = 1,
F4 = 1,
F5 = 1,
E1-E13 = VARE1-VARE13,
E21 = VARE21,
E24-E25 = VARE24-VARE25,
E27 = VARE27,
E29 = VARE29,
E41 = VARE41,
E42 = VARE42,
E55 = VARE55,
E86 = VARE86,
E94 = VARE94;

COV /* ----- COVARIANCES ----- */

F1 F2 = CF1F2,
F1 F3 = CF1F3,
F1 F4 = CF1F4,
F1 F5 = CF1F5,
F2 F3 = CF2F3,
F2 F4 = CF2F4,
F2 F5 = CF2F5,
F3 F4 = CF3F4,
F3 F5 = CF3F5,
F4 F5 = CF4F5;

OPTIONS LINESIZE=80 PAGESIZE=60;

/* VAR V21 V24 V25 V27 V29 V41 V42 V55 V86 V94 S1-S13; */

RUN;

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G.1.3 Correlation matrix for Measurement model

Datalines																									
N	1225	1225	1225	1225	1225	1225	1225	1225	1225	1225	1225	1225	1225	1225	1225	1225	1225	1225	1225	1225	1225	1225	1225	1225	1225
STD	.98	0.9	0.98	0.6	0.55	0.93	0.82	0.6	0.65	0.45	0.58	0.63	0.58	0.6	0.63	0.58	0.51	0.58	0.69	0.61	0.59	0.49	0.59	0.59	
CORR	v21	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CORR	v24	0.74	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CORR	v25	0.98	0.75	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CORR	v27	0.64	0.53	0.58	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CORR	v29	0.37	0.62	0.37	0.33	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CORR	v41	0.26	0.03	0.23	0.34	0.24	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CORR	v42	0.65	0.56	0.63	0.46	0.47	0.43	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CORR	v55	0.43	0.13	0.49	0.31	0.25	0.66	0.43	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CORR	v86	0.78	0.6	0.82	0.51	0.4	0.27	0.53	0.53	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CORR	v94	0.64	0.63	0.69	0.4	0.5	0.25	0.54	0.47	0.86	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CORR	s1	0.68	0.44	0.67	0.61	0.31	0.48	0.75	0.51	0.77	0.59	1	.	.	.	.	.	.	.	.	.	.	.	.	.
CORR	s2	0.6	0.45	0.65	0.5	0.32	0.29	0.53	0.53	0.75	0.67	0.76	1	.	.	.	.	.	.	.	.	.	.	.	.
CORR	s3	0.54	0.57	0.58	0.47	0.48	0.09	0.5	0.33	0.66	0.51	0.6	0.55	1	.	.	.	.	.	.	.	.	.	.	.
CORR	s4	0.69	0.46	0.67	0.57	0.35	0.45	0.81	0.45	0.71	0.55	0.94	0.71	0.62	1	.	.	.	.	.	.	.	.	.	.
CORR	s5	0.74	0.65	0.72	0.47	0.6	0.46	0.66	0.59	0.73	0.65	0.65	0.66	0.65	0.67	1	.	.	.	.	.	.	.	.	.
CORR	s6	0.42	0.09	0.44	0.3	0.26	0.65	0.39	0.83	0.55	0.47	0.41	0.44	0.34	0.44	0.56	1	.	.	.	.	.	.	.	.
CORR	s7	0.44	0.19	0.47	0.31	0.23	0.55	0.41	0.75	0.68	0.63	0.53	0.45	0.29	0.46	0.46	0.79	1	.	.	.	.	.	.	.
CORR	s8	0.53	0.48	0.52	0.35	0.34	0.37	0.49	0.47	0.51	0.59	0.47	0.52	0.24	0.42	0.67	0.35	0.48	1	.	.	.	.	.	.
CORR	s9	0.77	0.68	0.77	0.47	0.48	0.37	0.66	0.58	0.7	0.74	0.56	0.59	0.55	0.58	0.83	0.56	0.59	0.81	1	.	.	.	.	.
CORR	s10	0.65	0.45	0.67	0.45	0.4	0.55	0.53	0.75	0.73	0.63	0.56	0.55	0.55	0.58	0.79	0.81	0.74	0.58	0.79	1	.	.	.	.
CORR	s11	0.63	0.56	0.63	0.57	0.61	0.49	0.6	0.53	0.52	0.4	0.68	0.59	0.65	0.72	0.79	0.4	0.32	0.51	0.65	0.63	1	.	.	.
CORR	s12	0.59	0.78	0.63	0.44	0.71	0.06	0.49	0.23	0.74	0.72	0.59	0.6	0.8	0.58	0.71	0.19	0.26	0.37	0.59	0.49	0.63	1	.	.
CORR	s13	0.74	0.8	0.77	0.51	0.72	0.32	0.63	0.49	0.74	0.7	0.6	0.63	0.75	0.62	0.86	0.45	0.46	0.59	0.81	0.75	0.78	0.84	1	.

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G.2 Covariance Structure Analysis: Pattern and Initial Values

G.2.1 Lineqs Model Statement

Term 1	Matrix	Rows	Columns	-----Matrix Type-----
1	_SEL_	23	51	SELECTION
2	_BETA_	51	51	EQSBETA
3	_GAMMA_	51	28	EQSGAMMA
4	_PHI_	28	28	SYMMETRIC

G.2.2 Endogenous Variables

The 23 Endogenous Variables

Manifest	V21	V24	V25	V27	V29	V41	V42	V55	V86	V94	S1
	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
Latent	S13										

G.2.3 Exogenous Variables

The 28 Exogenous Variables

Manifest	F1	F2	F3	F4	F5						
Latent	E1	E2	E3	E4	E86	E5	E6	E7	E41	E55	E21
Error	E24	E25	E27	E8	E9	E10	E42	E94	E11	E12	E13
	E29										

G.2.4 Manifest Variable Equations with Initial Estimates

V21	=	. *F3	+	1.0000	E21
		LV21F3			
V24	=	. *F3	+	1.0000	E24
		LV24F3			
V25	=	. *F3	+	1.0000	E25
		LV25F3			
V27	=	. *F3	+	1.0000	E27
		LV27F3			
V29	=	. *F5	+	1.0000	E29
		LV29F5			
V41	=	. *F2	+	1.0000	E41
		LV41F2			
V42	=	. *F4	+	1.0000	E42
		LV42F4			
V55	=	. *F2	+	1.0000	E55
		LV55F2			
V86	=	. *F1	+	1.0000	E86
		L86F1			
V94	=	. *F4	+	1.0000	E94
		LV94F4			
S1	=	. *F1	+	1.0000	E1
		LS1F1			
S2	=	. *F1	+	1.0000	E2
		LS2F1			
S3	=	. *F1	+	1.0000	E3
		LS3F1			
S4	=	. *F1	+	1.0000	E4
		LS4F1			
S5	=	. *F2	+	1.0000	E5
		LS5F2			
S6	=	. *F2	+	1.0000	E6
		LS6F2			
S7	=	. *F2	+	1.0000	E7
		LS7F2			
S8	=	. *F4	+	1.0000	E8
		LS8F4			
S9	=	. *F4	+	1.0000	E9
		LS9F4			
S10	=	. *F4	+	1.0000	E10
		LS10F4			
S11	=	. *F5	+	1.0000	E11
		LS11F5			
S12	=	. *F5	+	1.0000	E12
		LS12F5			
S13	=	. *F5	+	1.0000	E13
		LS13F5			

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G2.5 Variances of Exogenous Variables

Variances of Exogenous Variables

Variable	Parameter	Estimate
F1		1.00000
F2		1.00000
F3		1.00000
F4		1.00000
F5		1.00000
E1	VARE1	.
E2	VARE2	.
E3	VARE3	.
E4	VARE4	.
E86	VARE86	.
E5	VARE5	.
E6	VARE6	.
E7	VARE7	.
E41	VARE41	.
E55	VARE55	.
E21	VARE21	.
E24	VARE24	.
E25	VARE25	.
E27	VARE27	.
E8	VARE8	.
E9	VARE9	.
E10	VARE10	.
E42	VARE42	.
E94	VARE94	.
E11	VARE11	.
E12	VARE12	.
E13	VARE13	.
E29	VARE29	.

G2.6 Covariances among Exogenous Variables

Covariances Among Exogenous Variables

Var1	Var2	Parameter	Estimate
F1	F2	CF1F2	.
F1	F3	CF1F3	.
F2	F3	CF2F3	.
F1	F4	CF1F4	.
F2	F4	CF2F4	.
F3	F4	CF3F4	.
F1	F5	CF1F5	.
F2	F5	CF2F5	.
F3	F5	CF3F5	.
F4	F5	CF4F5	.

Appendix G

G.3 Covariance Structure Analysis: Maximum Likelihood Estimation

G3.1 General Modelling Information

Observations	1225	Model Terms	1
Variables	23	Model Matrices	4
Informations	276	Parameters	56

G3.2 Simple Statistics

Variable	Mean	Std Dev
V21 Store knowledge on customers	0	0.98338
V24 Store knowledge on competitors' markets	0	0.89618
V25 Store knowledge on employees skills	0	0.98013
V27 Store knowledge on methods and processes	0	0.60284
V29 Intranet infrastructure implemented in organisation	0	0.54765
V41 Extranet support infrastructure implemented for KM	0	0.92865
V42 Strategy is important for KM initiative	0	0.82280
V55 Willingness to share knowledge	0	0.59782
V86 Process Adoption	0	0.64528
V94 Satisfaction	0	0.44918
S1 BI v63 & v64	0	0.58365
S2 BI v53 v54 & v58	0	0.63453
S3 BI v68 & v71	0	0.58127
S4 BI v43 & v44	0	0.60200
S5 AG v16 & v17	0	0.62540
S6 AG v76 & v77	0	0.57532
S7 AG v81 & v82 & v84	0	0.51341
S8 OL v3 v8-v13	0	0.57668
S9 OL v14 v15 v18 & v20	0	0.68552
S10 OL v36 v76	0	0.60949
S11 v46 v52	0	0.59030
S12 v85 v90 v92	0	0.48797
S13 v32 v35	0	0.58620

G3.3 Covariances

	V21
V21 Store knowledge on customers	0.9670362244
V24 Store knowledge on competitors' markets	0.6536053825
V25 Store knowledge on employees skills	0.9401008543
V27 Store knowledge on methods and processes	0.3780951775
V29 Intranet infrastructure implemented in organisation	0.1978033159
V41 Extranet support infrastructure implemented for KM	0.2387054876
V42 Strategy is important for KM initiative	0.5263520366
V55 Willingness to share knowledge	0.2545950242
V86 Process Adoption	0.4932399485
V94 Satisfaction	0.2831920826
S1 BI v63 & v64	0.3877776608
S2 BI v53 v54 & v58	0.3743717473
S3 BI v68 & v71	0.3097779400
S4 BI v43 & v44	0.4055637702
S5 AG v16 & v17	0.4528903094
S6 AG v76 & v77	0.2395929323
S7 AG v81 & v82 & v84	0.2234131769
S8 OL v3 v8-v13	0.2998744709
S9 OL v14 v15 v18 & v20	0.5213695570
S10 OL v36 v76	0.3913163307
S11 v46 v52	0.3666718169
S12 v85 v90 v92	0.2823927753
S13 v32 v35	0.4294319074

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V24

V21	Store knowledge on customers	0.6536053825
V24	Store knowledge on competitors' markets	0.8031385924
V25	Store knowledge on employees skills	0.6606506118
V27	Store knowledge on methods and processes	0.2868528132
V29	Intranet infrastructure implemented in organisation	0.3064216873
V41	Extranet support infrastructure implemented for KM	0.0210056759
V42	Strategy is important for KM initiative	0.4118692435
V55	Willingness to share knowledge	0.0670603692
V86	Process Adoption	0.3497826932
V94	Satisfaction	0.2547875490
S1	BI v63 & v64	0.2321581646
S2	BI v53 v54 & v58	0.2581571322
S3	BI v68 & v71	0.2952901559
S4	BI v43 & v44	0.2471019549
S5	AG v16 & v17	0.3621987609
S6	AG v76 & v77	0.0462845392
S7	AG v81 & v82 & v84	0.0851475446
S8	OL v3 v8-v13	0.2471742798
S9	OL v14 v15 v18 & v20	0.4180217035
S10	OL v36 v76	0.2477238677
S11	v46 v52	0.2974492944
S12	v85 v90 v92	0.3427321470
S13	v32 v35	0.4193374663

V25

V21	Store knowledge on customers	0.9401008543
V24	Store knowledge on competitors' markets	0.6606506118
V25	Store knowledge on employees skills	0.9606548169
V27	Store knowledge on methods and processes	0.3445609241
V29	Intranet infrastructure implemented in organisation	0.2001608597
V41	Extranet support infrastructure implemented for KM	0.2135232842
V42	Strategy is important for KM initiative	0.5057173350
V55	Willingness to share knowledge	0.2844100557
V86	Process Adoption	0.5158203292
V94	Satisfaction	0.3033619679
S1	BI v63 & v64	0.3817938090
S2	BI v53 v54 & v58	0.4054930716
S3	BI v68 & v71	0.3296343903
S4	BI v43 & v44	0.3969246379
S5	AG v16 & v17	0.4416533938
S6	AG v76 & v77	0.2490807803
S7	AG v81 & v82 & v84	0.2376150741
S8	OL v3 v8-v13	0.2960007784
S9	OL v14 v15 v18 & v20	0.5186587771
S10	OL v36 v76	0.4001307185
S11	v46 v52	0.3642623516
S12	v85 v90 v92	0.3001886988
S13	v32 v35	0.4448700276

V27

V21	Store knowledge on customers	0.3780951775
V24	Store knowledge on competitors' markets	0.2868528132
V25	Store knowledge on employees skills	0.3445609241
V27	Store knowledge on methods and processes	0.3634160656
V29	Intranet infrastructure implemented in organisation	0.1093507349
V41	Extranet support infrastructure implemented for KM	0.1928157414
V42	Strategy is important for KM initiative	0.2265606116
V55	Willingness to share knowledge	0.1114685679
V86	Process Adoption	0.1977717926
V94	Satisfaction	0.1073738491
S1	BI v63 & v64	0.2162701434
S2	BI v53 v54 & v58	0.1929354705
S3	BI v68 & v71	0.1651775889
S4	BI v43 & v44	0.2070218270
S5	AG v16 & v17	0.1778950638
S6	AG v76 & v77	0.1035622164
S7	AG v81 & v82 & v84	0.0964693281
S8	OL v3 v8-v13	0.1232160907
S9	OL v14 v15 v18 & v20	0.1961739888
S10	OL v36 v76	0.1638788769
S11	v46 v52	0.2038772785
S12	v85 v90 v92	0.1298074405
S13	v32 v35	0.1813076096

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V29

V21	Store knowledge on customers	0.1978033159
V24	Store knowledge on competitors' markets	0.3064216873
V25	Store knowledge on employees skills	0.2001608597
V27	Store knowledge on methods and processes	0.1093507349
V29	Intranet infrastructure implemented in organisation	0.2999205225
V41	Extranet support infrastructure implemented for KM	0.1240974278
V42	Strategy is important for KM initiative	0.2139253979
V55	Willingness to share knowledge	0.0813710324
V86	Process Adoption	0.1411218010
V94	Satisfaction	0.1234641010
S1	BI v63 & v64	0.0992948993
S2	BI v53 v54 & v58	0.1123642396
S3	BI v68 & v71	0.1537768883
S4	BI v43 & v44	0.1167613458
S5	AG v16 & v17	0.2057091112
S6	AG v76 & v77	0.0825745934
S7	AG v81 & v82 & v84	0.0649865878
S8	OL v3 v8-v13	0.1068193934
S9	OL v14 v15 v18 & v20	0.1797497492
S10	OL v36 v76	0.1336116777
S11	v46 v52	0.1963427688
S12	v85 v90 v92	0.1890539809
S13	v32 v35	0.2310085160

V41

V21	Store knowledge on customers	0.2387054876
V24	Store knowledge on competitors' markets	0.0210056759
V25	Store knowledge on employees skills	0.2135232842
V27	Store knowledge on methods and processes	0.1928157414
V29	Intranet infrastructure implemented in organisation	0.1240974278
V41	Extranet support infrastructure implemented for KM	0.8623908225
V42	Strategy is important for KM initiative	0.3321207590
V55	Willingness to share knowledge	0.3646438320
V86	Process Adoption	0.1614410523
V94	Satisfaction	0.1059012201
S1	BI v63 & v64	0.2599192518
S2	BI v53 v54 & v58	0.1683092725
S3	BI v68 & v71	0.0496558695
S4	BI v43 & v44	0.2492903720
S5	AG v16 & v17	0.2670299755
S6	AG v76 & v77	0.3471211581
S7	AG v81 & v82 & v84	0.2600825062
S8	OL v3 v8-v13	0.1984956334
S9	OL v14 v15 v18 & v20	0.2371619995
S10	OL v36 v76	0.3085451546
S11	v46 v52	0.2662355981
S12	v85 v90 v92	0.0271302905
S13	v32 v35	0.1715923271

V42

V21	Store knowledge on customers	0.5263520366
V24	Store knowledge on competitors' markets	0.4118692435
V25	Store knowledge on employees skills	0.5057173350
V27	Store knowledge on methods and processes	0.2265606116
V29	Intranet infrastructure implemented in organisation	0.2139253979
V41	Extranet support infrastructure implemented for KM	0.3321207590
V42	Strategy is important for KM initiative	0.6769998400
V55	Willingness to share knowledge	0.2107536024
V86	Process Adoption	0.2822723286
V94	Satisfaction	0.1986373175
S1	BI v63 & v64	0.3610540331
S2	BI v53 v54 & v58	0.2764264512
S3	BI v68 & v71	0.2372596637
S4	BI v43 & v44	0.3997525255
S5	AG v16 & v17	0.3399978620
S6	AG v76 & v77	0.1824096659
S7	AG v81 & v82 & v84	0.1721544253
S8	OL v3 v8-v13	0.2331465385
S9	OL v14 v15 v18 & v20	0.3748028309
S10	OL v36 v76	0.2668570074
S11	v46 v52	0.2921041394
S12	v85 v90 v92	0.1980005712
S13	v32 v35	0.3054277110

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V55

V21	Store knowledge on customers	0.2545950242
V24	Store knowledge on competitors' markets	0.0670603692
V25	Store knowledge on employees skills	0.2844100557
V27	Store knowledge on methods and processes	0.1114685679
V29	Intranet infrastructure implemented in organisation	0.0813710324
V41	Extranet support infrastructure implemented for KM	0.3646438320
V42	Strategy is important for KM initiative	0.2107536024
V55	Willingness to share knowledge	0.3573887524
V86	Process Adoption	0.2056146250
V94	Satisfaction	0.1270839340
S1	BI v63 & v64	0.1787505085
S2	BI v53 v54 & v58	0.2029213176
S3	BI v68 & v71	0.1154204082
S4	BI v43 & v44	0.1633422032
S5	AG v16 & v17	0.2189645860
S6	AG v76 & v77	0.2858432682
S7	AG v81 & v82 & v84	0.2294523119
S8	OL v3 v8-v13	0.1627534229
S9	OL v14 v15 v18 & v20	0.2376204214
S10	OL v36 v76	0.2720059926
S11	v46 v52	0.1861476056
S12	v85 v90 v92	0.0671331152
S13	v32 v35	0.1717516654

V86

V21	Store knowledge on customers	0.4932399485
V24	Store knowledge on competitors' markets	0.3497826932
V25	Store knowledge on employees skills	0.5158203292
V27	Store knowledge on methods and processes	0.1977717926
V29	Intranet infrastructure implemented in organisation	0.1411218010
V41	Extranet support infrastructure implemented for KM	0.1614410523
V42	Strategy is important for KM initiative	0.2822723286
V55	Willingness to share knowledge	0.2056146250
V86	Process Adoption	0.4163862784
V94	Satisfaction	0.2493871458
S1	BI v63 & v64	0.2895850942
S2	BI v53 v54 & v58	0.3068087131
S3	BI v68 & v71	0.2469876840
S4	BI v43 & v44	0.2777129091
S5	AG v16 & v17	0.2929630114
S6	AG v76 & v77	0.2026427129
S7	AG v81 & v82 & v84	0.2258823329
S8	OL v3 v8-v13	0.1895691275
S9	OL v14 v15 v18 & v20	0.3108852285
S10	OL v36 v76	0.2858483457
S11	v46 v52	0.1965527416
S12	v85 v90 v92	0.2330532712
S13	v32 v35	0.2805048111

V94

V21	Store knowledge on customers	0.2831920826
V24	Store knowledge on competitors' markets	0.2547875490
V25	Store knowledge on employees skills	0.3033619679
V27	Store knowledge on methods and processes	0.1073738491
V29	Intranet infrastructure implemented in organisation	0.1234641010
V41	Extranet support infrastructure implemented for KM	0.1059012201
V42	Strategy is important for KM initiative	0.1986373175
V55	Willingness to share knowledge	0.1270839340
V86	Process Adoption	0.2493871458
V94	Satisfaction	0.2017626724
S1	BI v63 & v64	0.1550647077
S2	BI v53 v54 & v58	0.1921649610
S3	BI v68 & v71	0.1328424531
S4	BI v43 & v44	0.1482340625
S5	AG v16 & v17	0.1816972268
S6	AG v76 & v77	0.1214326094
S7	AG v81 & v82 & v84	0.1461236344
S8	OL v3 v8-v13	0.1529383361
S9	OL v14 v15 v18 & v20	0.2282378511
S10	OL v36 v76	0.1715255681
S11	v46 v52	0.1058933365
S12	v85 v90 v92	0.1582109098
S13	v32 v35	0.1845956291

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S1

V21	Store knowledge on customers	0.3877776608
V24	Store knowledge on competitors' markets	0.2321581646
V25	Store knowledge on employees skills	0.3817938090
V27	Store knowledge on methods and processes	0.2162701434
V29	Intranet infrastructure implemented in organisation	0.0992948993
V41	Extranet support infrastructure implemented for KM	0.2599192518
V42	Strategy is important for KM initiative	0.3610540331
V55	Willingness to share knowledge	0.1787505085
V86	Process Adoption	0.2895850942
V94	Satisfaction	0.1550647077
S1	BI v63 & v64	0.3406473225
S2	BI v53 v54 & v58	0.2830794110
S3	BI v68 & v71	0.2039925844
S4	BI v43 & v44	0.3301739684
S5	AG v16 & v17	0.2386210664
S6	AG v76 & v77	0.1368796086
S7	AG v81 & v82 & v84	0.1573920798
S8	OL v3 v8-v13	0.1579532912
S9	OL v14 v15 v18 & v20	0.2222336258
S10	OL v36 v76	0.1987741604
S11	v46 v52	0.2359194007
S12	v85 v90 v92	0.1671427418
S13	v32 v35	0.2068723087

S2

V21	Store knowledge on customers	0.3743717473
V24	Store knowledge on competitors' markets	0.2581571322
V25	Store knowledge on employees skills	0.4054930716
V27	Store knowledge on methods and processes	0.1929354705
V29	Intranet infrastructure implemented in organisation	0.1123642396
V41	Extranet support infrastructure implemented for KM	0.1683092725
V42	Strategy is important for KM initiative	0.2764264512
V55	Willingness to share knowledge	0.2029213176
V86	Process Adoption	0.3068087131
V94	Satisfaction	0.1921649610
S1	BI v63 & v64	0.2830794110
S2	BI v53 v54 & v58	0.4026283209
S3	BI v68 & v71	0.2022755327
S4	BI v43 & v44	0.2699578950
S5	AG v16 & v17	0.2612960466
S6	AG v76 & v77	0.1594864515
S7	AG v81 & v82 & v84	0.1456275146
S8	OL v3 v8-v13	0.1907727884
S9	OL v14 v15 v18 & v20	0.2563876832
S10	OL v36 v76	0.2137548939
S11	v46 v52	0.2201307098
S12	v85 v90 v92	0.1866799904
S13	v32 v35	0.2360504786

S3

V21	Store knowledge on customers	0.3097779400
V24	Store knowledge on competitors' markets	0.2952901559
V25	Store knowledge on employees skills	0.3296343903
V27	Store knowledge on methods and processes	0.1651775889
V29	Intranet infrastructure implemented in organisation	0.1537768883
V41	Extranet support infrastructure implemented for KM	0.0496558695
V42	Strategy is important for KM initiative	0.2372596637
V55	Willingness to share knowledge	0.1154204082
V86	Process Adoption	0.2469876840
V94	Satisfaction	0.1328424531
S1	BI v63 & v64	0.2039925844
S2	BI v53 v54 & v58	0.2022755327
S3	BI v68 & v71	0.3378748129
S4	BI v43 & v44	0.2177300473
S5	AG v16 & v17	0.2349106679
S6	AG v76 & v77	0.1123571738
S7	AG v81 & v82 & v84	0.0854732878
S8	OL v3 v8-v13	0.0812842930
S9	OL v14 v15 v18 & v20	0.2179882074
S10	OL v36 v76	0.1942011668
S11	v46 v52	0.2231401922
S12	v85 v90 v92	0.2268117463
S13	v32 v35	0.2539504679

S4

V21	Store knowledge on customers	0.4055637702
V24	Store knowledge on competitors' markets	0.2471019549
V25	Store knowledge on employees skills	0.3969246379
V27	Store knowledge on methods and processes	0.2070218270
V29	Intranet infrastructure implemented in organisation	0.1167613458
V41	Extranet support infrastructure implemented for KM	0.2492903720
V42	Strategy is important for KM initiative	0.3997525255
V55	Willingness to share knowledge	0.1633422032
V86	Process Adoption	0.2777129091
V94	Satisfaction	0.1482340625
S1	BI v63 & v64	0.3301739684
S2	BI v53 v54 & v58	0.2699578950
S3	BI v68 & v71	0.2177300473
S4	BI v43 & v44	0.3624040000
S5	AG v16 & v17	0.2518911697
S6	AG v76 & v77	0.1526297380
S7	AG v81 & v82 & v84	0.1416975251
S8	OL v3 v8-v13	0.1440754360
S9	OL v14 v15 v18 & v20	0.2389352265
S10	OL v36 v76	0.2128168667
S11	v46 v52	0.2568866241
S12	v85 v90 v92	0.1700975976
S13	v32 v35	0.2173181978

S5

V21	Store knowledge on customers	0.4528903094
V24	Store knowledge on competitors' markets	0.3621987609
V25	Store knowledge on employees skills	0.4416533938
V27	Store knowledge on methods and processes	0.1778950638
V29	Intranet infrastructure implemented in organisation	0.2057091112
V41	Extranet support infrastructure implemented for KM	0.2670299755
V42	Strategy is important for KM initiative	0.3399978620
V55	Willingness to share knowledge	0.2189645860
V86	Process Adoption	0.2929630114
V94	Satisfaction	0.1816972268
S1	BI v63 & v64	0.2386210664
S2	BI v53 v54 & v58	0.2612960466
S3	BI v68 & v71	0.2349106679
S4	BI v43 & v44	0.2518911697
S5	AG v16 & v17	0.3911251600
S6	AG v76 & v77	0.2031171909
S7	AG v81 & v82 & v84	0.1468682281
S8	OL v3 v8-v13	0.2414986445
S9	OL v14 v15 v18 & v20	0.3567071155
S10	OL v36 v76	0.3011359098
S11	v46 v52	0.2933564337
S12	v85 v90 v92	0.2151890617
S13	v32 v35	0.3162300053

S6

V21	Store knowledge on customers	0.2395929323
V24	Store knowledge on competitors' markets	0.0462845392
V25	Store knowledge on employees skills	0.2490807803
V27	Store knowledge on methods and processes	0.1035622164
V29	Intranet infrastructure implemented in organisation	0.0825745934
V41	Extranet support infrastructure implemented for KM	0.3471211581
V42	Strategy is important for KM initiative	0.1824096659
V55	Willingness to share knowledge	0.2858432682
V86	Process Adoption	0.2026427129
V94	Satisfaction	0.1214326094
S1	BI v63 & v64	0.1368796086
S2	BI v53 v54 & v58	0.1594864515
S3	BI v68 & v71	0.1123571738
S4	BI v43 & v44	0.1526297380
S5	AG v16 & v17	0.2031171909
S6	AG v76 & v77	0.3309931024
S7	AG v81 & v82 & v84	0.2325221862
S8	OL v3 v8-v13	0.1166522790
S9	OL v14 v15 v18 & v20	0.2218817640
S10	OL v36 v76	0.2851921112
S11	v46 v52	0.1373456408
S12	v85 v90 v92	0.0545644127
S13	v32 v35	0.1527012250

S7

V21	Store knowledge on customers	0.2234131769
V24	Store knowledge on competitors' markets	0.0851475446
V25	Store knowledge on employees skills	0.2376150741
V27	Store knowledge on methods and processes	0.0964693281
V29	Intranet infrastructure implemented in organisation	0.0649865878
V41	Extranet support infrastructure implemented for KM	0.2600825062
V42	Strategy is important for KM initiative	0.1721544253
V55	Willingness to share knowledge	0.2294523119
V86	Process Adoption	0.2258823329
V94	Satisfaction	0.1461236344
S1	BI v63 & v64	0.1573920798
S2	BI v53 v54 & v58	0.1456275146
S3	BI v68 & v71	0.0854732878
S4	BI v43 & v44	0.1416975251
S5	AG v16 & v17	0.1468682281
S6	AG v76 & v77	0.2325221862
S7	AG v81 & v82 & v84	0.2635898281
S8	OL v3 v8-v13	0.1431336659
S9	OL v14 v15 v18 & v20	0.2077331148
S10	OL v36 v76	0.2316784220
S11	v46 v52	0.0962113079
S12	v85 v90 v92	0.0640175930
S13	v32 v35	0.1370064496

S8

V21	Store knowledge on customers	0.2998744709
V24	Store knowledge on competitors' markets	0.2471742798
V25	Store knowledge on employees skills	0.2960007784
V27	Store knowledge on methods and processes	0.1232160907
V29	Intranet infrastructure implemented in organisation	0.1068193934
V41	Extranet support infrastructure implemented for KM	0.1984956334
V42	Strategy is important for KM initiative	0.2331465385
V55	Willingness to share knowledge	0.1627534229
V86	Process Adoption	0.1895691275
V94	Satisfaction	0.1529383361
S1	BI v63 & v64	0.1579532912
S2	BI v53 v54 & v58	0.1907727884
S3	BI v68 & v71	0.0812842930
S4	BI v43 & v44	0.1440754360
S5	AG v16 & v17	0.2414986445
S6	AG v76 & v77	0.1166522790
S7	AG v81 & v82 & v84	0.1431336659
S8	OL v3 v8-v13	0.3325598224
S9	OL v14 v15 v18 & v20	0.3184664561
S10	OL v36 v76	0.2041927087
S11	v46 v52	0.1733218920
S12	v85 v90 v92	0.1039613542
S13	v32 v35	0.1994122060

S9

V21	Store knowledge on customers	0.5213695570
V24	Store knowledge on competitors' markets	0.4180217035
V25	Store knowledge on employees skills	0.5186587771
V27	Store knowledge on methods and processes	0.1961739888
V29	Intranet infrastructure implemented in organisation	0.1797497492
V41	Extranet support infrastructure implemented for KM	0.2371619995
V42	Strategy is important for KM initiative	0.3748028309
V55	Willingness to share knowledge	0.2376204214
V86	Process Adoption	0.3108852285
V94	Satisfaction	0.2282378511
S1	BI v63 & v64	0.2222336258
S2	BI v53 v54 & v58	0.2563876832
S3	BI v68 & v71	0.2179882074
S4	BI v43 & v44	0.2389352265
S5	AG v16 & v17	0.3567071155
S6	AG v76 & v77	0.2218817640
S7	AG v81 & v82 & v84	0.2077331148
S8	OL v3 v8-v13	0.3184664561
S9	OL v14 v15 v18 & v20	0.4699376704
S10	OL v36 v76	0.3304143242
S11	v46 v52	0.2621079660
S12	v85 v90 v92	0.1988915100
S13	v32 v35	0.3257330515

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S10

V21	Store knowledge on customers	0.3913163307
V24	Store knowledge on competitors' markets	0.2477238677
V25	Store knowledge on employees skills	0.4001307185
V27	Store knowledge on methods and processes	0.1638788769
V29	Intranet infrastructure implemented in organisation	0.1336116777
V41	Extranet support infrastructure implemented for KM	0.3085451546
V42	Strategy is important for KM initiative	0.2668570074
V55	Willingness to share knowledge	0.2720059926
V86	Process Adoption	0.2858483457
V94	Satisfaction	0.1715255681
S1	BI v63 & v64	0.1987741604
S2	BI v53 v54 & v58	0.2137548939
S3	BI v68 & v71	0.1942011668
S4	BI v43 & v44	0.2128168667
S5	AG v16 & v17	0.3011359098
S6	AG v76 & v77	0.2851921112
S7	AG v81 & v82 & v84	0.2316784220
S8	OL v3 v8-v13	0.2041927087
S9	OL v14 v15 v18 & v20	0.3304143242
S10	OL v36 v76	0.3714780601
S11	v46 v52	0.2257020088
S12	v85 v90 v92	0.1456638843
S13	v32 v35	0.2674549366

S11

V21	Store knowledge on customers	0.3666718169
V24	Store knowledge on competitors' markets	0.2974492944
V25	Store knowledge on employees skills	0.3642623516
V27	Store knowledge on methods and processes	0.2038772785
V29	Intranet infrastructure implemented in organisation	0.1963427688
V41	Extranet support infrastructure implemented for KM	0.2662355981
V42	Strategy is important for KM initiative	0.2921041394
V55	Willingness to share knowledge	0.1861476056
V86	Process Adoption	0.1965527416
V94	Satisfaction	0.1058933365
S1	BI v63 & v64	0.2359194007
S2	BI v53 v54 & v58	0.2201307098
S3	BI v68 & v71	0.2231401922
S4	BI v43 & v44	0.2568866241
S5	AG v16 & v17	0.2933564337
S6	AG v76 & v77	0.1373456408
S7	AG v81 & v82 & v84	0.0962113079
S8	OL v3 v8-v13	0.1733218920
S9	OL v14 v15 v18 & v20	0.2621079660
S10	OL v36 v76	0.2257020088
S11	v46 v52	0.3484540900
S12	v85 v90 v92	0.1809493072
S13	v32 v35	0.2715777543

S12

V21	Store knowledge on customers	0.2823927753
V24	Store knowledge on competitors' markets	0.3427321470
V25	Store knowledge on employees skills	0.3001886988
V27	Store knowledge on methods and processes	0.1298074405
V29	Intranet infrastructure implemented in organisation	0.1890539809
V41	Extranet support infrastructure implemented for KM	0.0271302905
V42	Strategy is important for KM initiative	0.1980005712
V55	Willingness to share knowledge	0.0671331152
V86	Process Adoption	0.2330532712
V94	Satisfaction	0.1582109098
S1	BI v63 & v64	0.1671427418
S2	BI v53 v54 & v58	0.1866799904
S3	BI v68 & v71	0.2268117463
S4	BI v43 & v44	0.1700975976
S5	AG v16 & v17	0.2151890617
S6	AG v76 & v77	0.0545644127
S7	AG v81 & v82 & v84	0.0640175930
S8	OL v3 v8-v13	0.1039613542
S9	OL v14 v15 v18 & v20	0.1988915100
S10	OL v36 v76	0.1456638843
S11	v46 v52	0.1809493072
S12	v85 v90 v92	0.2381147209
S13	v32 v35	0.2408495673

S13

V21	Store knowledge on customers	0.4294319074
V24	Store knowledge on competitors' markets	0.4193374663
V25	Store knowledge on employees skills	0.4448700276
V27	Store knowledge on methods and processes	0.1813076096
V29	Intranet infrastructure implemented in organisation	0.2310085160
V41	Extranet support infrastructure implemented for KM	0.1715923271
V42	Strategy is important for KM initiative	0.3054277110
V55	Willingness to share knowledge	0.1717516654
V86	Process Adoption	0.2805048111
V94	Satisfaction	0.1845956291
S1	BI v63 & v64	0.2068723087
S2	BI v53 v54 & v58	0.2360504786
S3	BI v68 & v71	0.2539504679
S4	BI v43 & v44	0.2173181978
S5	AG v16 & v17	0.3162300053
S6	AG v76 & v77	0.1527012250
S7	AG v81 & v82 & v84	0.1370064496
S8	OL v3 v8-v13	0.1994122060
S9	OL v14 v15 v18 & v20	0.3257330515
S10	OL v36 v76	0.2674549366
S11	v46 v52	0.2715777543
S12	v85 v90 v92	0.2408495673
S13	v32 v35	0.3436304400

G.3.4 Determinant

Determinant 2.352741E-26 Ln -59.011631

NOTE: Some initial estimates computed by instrumental variable method.

G.4 Optimisation

G.4.1 Parameter Vector: initial estimates

	Parameter	Estimate	Type
1	LV21F3	0.97536	Matrix Entry: $_GAMMA_ [1:3]$
2	LV24F3	0.67525	Matrix Entry: $_GAMMA_ [2:3]$
3	LV25F3	0.95537	Matrix Entry: $_GAMMA_ [3:3]$
4	LV27F3	0.39989	Matrix Entry: $_GAMMA_ [4:3]$
5	LV29F5	0.36982	Matrix Entry: $_GAMMA_ [5:5]$
6	LV41F2	0.72565	Matrix Entry: $_GAMMA_ [6:2]$
7	LV42F4	0.70244	Matrix Entry: $_GAMMA_ [7:4]$
8	LV55F2	0.45499	Matrix Entry: $_GAMMA_ [8:2]$
9	L86F1	0.60249	Matrix Entry: $_GAMMA_ [9:1]$
10	LV94F4	0.32240	Matrix Entry: $_GAMMA_ [10:4]$
11	LS1F1	0.51374	Matrix Entry: $_GAMMA_ [11:1]$
12	LS2F1	0.50831	Matrix Entry: $_GAMMA_ [12:1]$
13	LS3F1	0.40158	Matrix Entry: $_GAMMA_ [13:1]$
14	LS4F1	0.53678	Matrix Entry: $_GAMMA_ [14:1]$
15	LS5F2	0.51318	Matrix Entry: $_GAMMA_ [15:2]$
16	LS6F2	0.42661	Matrix Entry: $_GAMMA_ [16:2]$
17	LS7F2	0.38509	Matrix Entry: $_GAMMA_ [17:2]$
18	LS8F4	0.37346	Matrix Entry: $_GAMMA_ [18:4]$
19	LS9F4	0.57430	Matrix Entry: $_GAMMA_ [19:4]$
20	LS10F4	0.49351	Matrix Entry: $_GAMMA_ [20:4]$
21	LS11F5	0.52463	Matrix Entry: $_GAMMA_ [21:5]$
22	LS12F5	0.39047	Matrix Entry: $_GAMMA_ [22:5]$
23	LS13F5	0.57652	Matrix Entry: $_GAMMA_ [23:5]$
24	CF1F2	0.68422	Matrix Entry: $_PHI_ [2:1]$
25	CF1F3	0.81512	Matrix Entry: $_PHI_ [3:1]$
26	CF2F3	0.51846	Matrix Entry: $_PHI_ [3:2]$
27	CF1F4	0.86956	Matrix Entry: $_PHI_ [4:1]$
28	CF2F4	0.83610	Matrix Entry: $_PHI_ [4:2]$
29	CF3F4	0.85623	Matrix Entry: $_PHI_ [4:3]$
30	CF1F5	0.81182	Matrix Entry: $_PHI_ [5:1]$
31	CF2F5	0.62427	Matrix Entry: $_PHI_ [5:2]$
32	CF3F5	0.79799	Matrix Entry: $_PHI_ [5:3]$
33	CF4F5	0.84377	Matrix Entry: $_PHI_ [5:4]$
34	VARE1	0.07671	Matrix Entry: $_PHI_ [6:6]$
35	VARE2	0.14425	Matrix Entry: $_PHI_ [7:7]$
36	VARE3	0.17661	Matrix Entry: $_PHI_ [8:8]$
37	VARE4	0.07427	Matrix Entry: $_PHI_ [9:9]$
38	VARE86	0.05339	Matrix Entry: $_PHI_ [10:10]$
39	VARE5	0.12777	Matrix Entry: $_PHI_ [11:11]$
40	VARE6	0.14899	Matrix Entry: $_PHI_ [12:12]$
41	VARE7	0.11529	Matrix Entry: $_PHI_ [13:13]$
42	VARE41	0.33582	Matrix Entry: $_PHI_ [14:14]$
43	VARE55	0.15037	Matrix Entry: $_PHI_ [15:15]$
44	VARE21	0.01571	Matrix Entry: $_PHI_ [16:16]$
45	VARE24	0.34718	Matrix Entry: $_PHI_ [17:17]$
46	VARE25	0.04792	Matrix Entry: $_PHI_ [18:18]$
47	VARE27	0.20350	Matrix Entry: $_PHI_ [19:19]$
48	VARE8	0.19309	Matrix Entry: $_PHI_ [20:20]$
49	VARE9	0.14012	Matrix Entry: $_PHI_ [21:21]$
50	VARE10	0.12793	Matrix Entry: $_PHI_ [22:22]$
51	VARE42	0.18358	Matrix Entry: $_PHI_ [23:23]$
52	VARE94	0.09782	Matrix Entry: $_PHI_ [24:24]$
53	VARE11	0.07321	Matrix Entry: $_PHI_ [25:25]$
54	VARE12	0.08565	Matrix Entry: $_PHI_ [26:26]$
55	VARE13	0.01126	Matrix Entry: $_PHI_ [27:27]$
56	VARE29	0.16315	Matrix Entry: $_PHI_ [28:28]$

G.4.2 Dual Quasi-Newton Optimisation

G.4.2.1 Problem Description

Dual Broyden - Fletcher - Goldfarb - Shanno Update (DBFGS)

Parameter Estimates	56
Functions (Observations)	276

G.4.2.2 Optimisation Start

Optimization Start

Active Constraints	0	Objective Function	18.236207704
Max Abs Gradient Element	8.220078065		

Appendix G

G.4.2.3 Iteration History

Iter	Rest arts	Func Calls	Act Con	Objective Function	Obj Fun Change	Max Abs Gradient Element	Step Size	Slope Search Direc
1	0	4	0	17.77995	0.4563	5.5363	0.00765	-119.5
2	0	5	0	17.48069	0.2993	4.9180	1.000	-0.696
3	0	6	0	17.33922	0.1415	27.2149	1.000	-0.364
4	0	7	0	17.13286	0.2064	9.9770	0.252	-1.402
5	0	8	0	16.94941	0.1834	2.1226	1.000	-0.393
6	0	11	0	16.85259	0.0968	4.7048	1.235	-0.145
7	0	12	0	16.75174	0.1009	3.5138	1.939	-0.125
8	0	13	0	16.70094	0.0508	4.0905	1.385	-0.182
9	0	14	0	16.61588	0.0851	1.9989	1.149	-0.111
10	0	17	0	16.60402	0.0119	5.4146	1.026	-0.0580
11	0	18	0	16.58475	0.0193	1.5574	0.526	-0.0564
12	0	19	0	16.57147	0.0133	1.8114	2.710	-0.0178
13	0	21	0	16.56322	0.00825	0.7721	1.433	-0.0111
14	0	23	0	16.55984	0.00338	0.6685	0.985	-0.0069
15	0	25	0	16.55236	0.00748	0.6017	2.351	-0.0072
16	0	27	0	16.54949	0.00287	0.5664	2.507	-0.0026
17	0	28	0	16.54802	0.00148	0.6798	3.609	-0.0020
18	0	29	0	16.54629	0.00173	0.1678	1.390	-0.0027
19	0	30	0	16.54413	0.00216	0.3651	5.302	-0.0008
20	0	32	0	16.54351	0.000623	0.2863	2.854	-0.0005
21	0	33	0	16.54330	0.000210	0.4989	4.578	-0.0003
22	0	34	0	16.54296	0.000340	0.2444	0.816	-0.0006
23	0	36	0	16.54279	0.000172	0.1256	2.015	-0.0002
24	0	37	0	16.54250	0.000287	0.0741	3.354	-0.0001
25	0	39	0	16.54233	0.000174	0.1332	1.897	-0.0002
26	0	40	0	16.54203	0.000292	0.0356	3.399	-0.0001
27	0	42	0	16.54190	0.000134	0.0638	1.632	-0.0002
28	0	43	0	16.54169	0.000211	0.1028	4.077	-0.0001
29	0	45	0	16.54155	0.000140	0.0499	2.114	-0.0001
30	0	46	0	16.54149	0.000058	0.0917	4.427	-0.0001
31	0	47	0	16.54140	0.000090	0.0345	1.054	-0.0001
32	0	48	0	16.54131	0.000090	0.0582	4.113	-547E-7
33	0	49	0	16.54120	0.000109	0.0228	2.593	-0.0001
34	0	51	0	16.54114	0.000060	0.0276	2.988	-398E-7
35	0	53	0	16.54101	0.000128	0.0441	6.216	-479E-7
36	0	54	0	16.54093	0.000081	0.0540	6.115	-525E-7
37	0	55	0	16.54083	0.000106	0.0348	1.539	-0.0001
38	0	56	0	16.54073	0.000094	0.0223	5.207	-507E-7
39	0	58	0	16.54068	0.000051	0.0125	1.715	-598E-7
40	0	60	0	16.54065	0.000032	0.0192	3.048	-21E-6
41	0	61	0	16.54061	0.000041	0.0136	4.710	-17E-6
42	0	62	0	16.54059	0.000019	0.0473	7.760	-131E-7
43	0	63	0	16.54057	0.000025	0.00982	1.227	-385E-7
44	0	64	0	16.54055	0.000014	0.0422	6.597	-966E-8
45	0	65	0	16.54054	0.000016	0.00926	1.535	-225E-7
46	0	66	0	16.54052	0.000012	0.0160	5.641	-7E-6
47	0	68	0	16.54052	6.259E-6	0.00797	1.368	-914E-8
48	0	69	0	16.54051	6.559E-6	0.00711	6.424	-244E-8
49	0	71	0	16.54051	2.68E-6	0.00450	2.441	-22E-7
50	0	72	0	16.54050	4.291E-6	0.00520	3.284	-204E-8
51	0	74	0	16.54050	1.363E-6	0.00418	1.458	-187E-8
52	0	75	0	16.54050	3.53E-7	0.0104	7.239	-471E-9
53	0	77	0	16.54050	1.168E-6	0.00209	1.323	-176E-8
54	0	78	0	16.54050	9.205E-7	0.00428	6.834	-427E-9
55	0	80	0	16.54050	4.771E-7	0.00117	1.607	-594E-9
56	0	81	0	16.54050	2.579E-7	0.00378	5.203	-229E-9
57	0	82	0	16.54050	2.19E-7	0.000881	1.809	-356E-9
58	0	83	0	16.54050	1.429E-7	0.00248	3.444	-159E-9

G.4.2.4 Optimisation Results

```

Iterations                    58  Function Calls                    84
Gradient Calls                65  Active Constraints                0
Objective Function            16.540499443  Max Abs Gradient Element        0.002483938
Slope of Search Direction    -1.59001E-7

```

GCONV convergence criterion satisfied.

NOTE: At least one element of the (projected) gradient is greater than 1e-3.

G.5 Model Fit Summary

G.5.1 Predicted Model Matrix

Predicted Model Matrix

V21		
V21	Store knowledge on customers	0.9671545762
V24	Store knowledge on competitors' markets	0.6631656352
V25	Store knowledge on employees skills	0.9396457187
V27	Store knowledge on methods and processes	0.3655625348
V29	Intranet infrastructure implemented in organisation	0.2901032494
V41	Extranet support infrastructure implemented for KM	0.3355250948
V42	Strategy is important for KM initiative	0.4555691550
V55	Willingness to share knowledge	0.2769236670
V86	Process Adoption	0.3715994494
V94	Satisfaction	0.2782030039
S1	BI v63 & v64	0.4051800851
S2	BI v53 v54 & v58	0.3566176452
S3	BI v68 & v71	0.2706045191
S4	BI v43 & v44	0.4091829734
S5	AG v16 & v17	0.2166042411
S6	AG v76 & v77	0.2691811295
S7	AG v81 & v82 & v84	0.2238203391
S8	OL v3 v8-v13	0.3308927972
S9	OL v14 v15 v18 & v20	0.5043821156
S10	OL v36 v76	0.4326269090
S11	v46 v52	0.3402882564
S12	v85 v90 v92	0.3027298067
S13	v32 v35	0.4431842878

V24		
V21	Store knowledge on customers	0.6631656352
V24	Store knowledge on competitors' markets	0.8031892254
V25	Store knowledge on employees skills	0.6598185286
V27	Store knowledge on methods and processes	0.2566977415
V29	Intranet infrastructure implemented in organisation	0.2037102871
V41	Extranet support infrastructure implemented for KM	0.2356054733
V42	Strategy is important for KM initiative	0.3199003236
V55	Willingness to share knowledge	0.1944555941
V86	Process Adoption	0.2609368585
V94	Satisfaction	0.1953539435
S1	BI v63 & v64	0.2845171561
S2	BI v53 v54 & v58	0.2504166467
S3	BI v68 & v71	0.1900182931
S4	BI v43 & v44	0.2873279812
S5	AG v16 & v17	0.1520993379
S6	AG v76 & v77	0.1890187900
S7	AG v81 & v82 & v84	0.1571664766
S8	OL v3 v8-v13	0.2323526774
S9	OL v14 v15 v18 & v20	0.3541767484
S10	OL v36 v76	0.3037902955
S11	v46 v52	0.2389501620
S12	v85 v90 v92	0.2125766463
S13	v32 v35	0.3112036790

V25		
V21	Store knowledge on customers	0.9396457187
V24	Store knowledge on competitors' markets	0.6598185286
V25	Store knowledge on employees skills	0.9608096962
V27	Store knowledge on methods and processes	0.3637174802
V29	Intranet infrastructure implemented in organisation	0.288639050
V41	Extranet support infrastructure implemented for KM	0.3338316441
V42	Strategy is important for KM initiative	0.4532698221
V55	Willingness to share knowledge	0.2755259875
V86	Process Adoption	0.3697239255
V94	Satisfaction	0.2767988673
S1	BI v63 & v64	0.4031350743
S2	BI v53 v54 & v58	0.3548177370
S3	BI v68 & v71	0.2692387333
S4	BI v43 & v44	0.4071177592
S5	AG v16 & v17	0.2155110037
S6	AG v76 & v77	0.2678225278
S7	AG v81 & v82 & v84	0.2226906809
S8	OL v3 v8-v13	0.3292227265
S9	OL v14 v15 v18 & v20	0.5018364156
S10	OL v36 v76	0.4304433695
S11	v46 v52	0.3385707653
S12	v85 v90 v92	0.3012018793
S13	v32 v35	0.4409474634

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V27

V21	Store knowledge on customers	0.3655625348
V24	Store knowledge on competitors' markets	0.2566977415
V25	Store knowledge on employees skills	0.3637174802
V27	Store knowledge on methods and processes	0.3634317394
V29	Intranet infrastructure implemented in organisation	0.1122929853
V41	Extranet support infrastructure implemented for KM	0.1298748449
V42	Strategy is important for KM initiative	0.1763414251
V55	Willingness to share knowledge	0.1071914407
V86	Process Adoption	0.1438384837
V94	Satisfaction	0.1076866457
S1	BI v63 & v64	0.1568368553
S2	BI v53 v54 & v58	0.1380393362
S3	BI v68 & v71	0.1047454289
S4	BI v43 & v44	0.1583862908
S5	AG v16 & v17	0.0838430349
S6	AG v76 & v77	0.1041944641
S7	AG v81 & v82 & v84	0.0866362376
S8	OL v3 v8-v13	0.1280817781
S9	OL v14 v15 v18 & v20	0.1952359155
S10	OL v36 v76	0.1674609548
S11	v46 v52	0.1317185666
S12	v85 v90 v92	0.1171804652
S13	v32 v35	0.1715474984

V29

V21	Store knowledge on customers	0.2901032494
V24	Store knowledge on competitors' markets	0.2037102871
V25	Store knowledge on employees skills	0.2886390503
V27	Store knowledge on methods and processes	0.1122929853
V29	Intranet infrastructure implemented in organisation	0.2999448988
V41	Extranet support infrastructure implemented for KM	0.1441951206
V42	Strategy is important for KM initiative	0.1917339815
V55	Willingness to share knowledge	0.1190105961
V86	Process Adoption	0.1308127221
V94	Satisfaction	0.1170864380
S1	BI v63 & v64	0.1426339839
S2	BI v53 v54 & v58	0.1255387353
S3	BI v68 & v71	0.0952598660
S4	BI v43 & v44	0.1440431052
S5	AG v16 & v17	0.0930877456
S6	AG v76 & v77	0.1156831665
S7	AG v81 & v82 & v84	0.0961889328
S8	OL v3 v8-v13	0.1392618283
S9	OL v14 v15 v18 & v20	0.2122777413
S10	OL v36 v76	0.1820783494
S11	v46 v52	0.1769545860
S12	v85 v90 v92	0.1574236742
S13	v32 v35	0.2304619413

V41

V21	Store knowledge on customers	0.3355250948
V24	Store knowledge on competitors' markets	0.2356054733
V25	Store knowledge on employees skills	0.3338316441
V27	Store knowledge on methods and processes	0.1298748449
V29	Intranet infrastructure implemented in organisation	0.1441951206
V41	Extranet support infrastructure implemented for KM	0.8622808349
V42	Strategy is important for KM initiative	0.3000829404
V55	Willingness to share knowledge	0.3482446118
V86	Process Adoption	0.2039373366
V94	Satisfaction	0.1832520366
S1	BI v63 & v64	0.2223667112
S2	BI v53 v54 & v58	0.1957151790
S3	BI v68 & v71	0.1485103517
S4	BI v43 & v44	0.2245635346
S5	AG v16 & v17	0.2723900802
S6	AG v76 & v77	0.3385080045
S7	AG v81 & v82 & v84	0.2814646648
S8	OL v3 v8-v13	0.2179587500
S9	OL v14 v15 v18 & v20	0.3322359881
S10	OL v36 v76	0.2849709063
S11	v46 v52	0.1691394573
S12	v85 v90 v92	0.1504711204
S13	v32 v35	0.2202836815

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V42

V21	Store knowledge on customers	0.4555691550
V24	Store knowledge on competitors' markets	0.3199003236
V25	Store knowledge on employees skills	0.4532698221
V27	Store knowledge on methods and processes	0.1763414251
V29	Intranet infrastructure implemented in organisation	0.1917339815
V41	Extranet support infrastructure implemented for KM	0.3000829404
V42	Strategy is important for KM initiative	0.6769387981
V55	Willingness to share knowledge	0.2476716930
V86	Process Adoption	0.2164425142
V94	Satisfaction	0.1981177211
S1	BI v63 & v64	0.2360019545
S2	BI v53 v54 & v58	0.2077161844
S3	BI v68 & v71	0.1576168171
S4	BI v43 & v44	0.2383334843
S5	AG v16 & v17	0.1937239229
S6	AG v76 & v77	0.2407470144
S7	AG v81 & v82 & v84	0.2001777708
S8	OL v3 v8-v13	0.2356398960
S9	OL v14 v15 v18 & v20	0.3591874778
S10	OL v36 v76	0.3080881806
S11	v46 v52	0.2249020733
S12	v85 v90 v92	0.2000790797
S13	v32 v35	0.2929077431

V55

V21	Store knowledge on customers	0.2769236670
V24	Store knowledge on competitors' markets	0.1944555941
V25	Store knowledge on employees skills	0.2755259875
V27	Store knowledge on methods and processes	0.1071914407
V29	Intranet infrastructure implemented in organisation	0.1190105961
V41	Extranet support infrastructure implemented for KM	0.3482446118
V42	Strategy is important for KM initiative	0.2476716930
V55	Willingness to share knowledge	0.3573513780
V86	Process Adoption	0.1683184834
V94	Satisfaction	0.1512459924
S1	BI v63 & v64	0.1835290595
S2	BI v53 v54 & v58	0.1615323739
S3	BI v68 & v71	0.1225721468
S4	BI v43 & v44	0.1853421948
S5	AG v16 & v17	0.2248155534
S6	AG v76 & v77	0.2793855941
S7	AG v81 & v82 & v84	0.2323052086
S8	OL v3 v8-v13	0.1798909746
S9	OL v14 v15 v18 & v20	0.2742090221
S10	OL v36 v76	0.2351990644
S11	v46 v52	0.1395982580
S12	v85 v90 v92	0.1241904558
S13	v32 v35	0.1818098432

V86

V21	Store knowledge on customers	0.3715994494
V24	Store knowledge on competitors' markets	0.2609368585
V25	Store knowledge on employees skills	0.3697239255
V27	Store knowledge on methods and processes	0.1438384837
V29	Intranet infrastructure implemented in organisation	0.1308127221
V41	Extranet support infrastructure implemented for KM	0.2039373366
V42	Strategy is important for KM initiative	0.2164425142
V55	Willingness to share knowledge	0.1683184834
V86	Process Adoption	0.4163067461
V94	Satisfaction	0.1321752295
S1	BI v63 & v64	0.2953706898
S2	BI v53 v54 & v58	0.2599693414
S3	BI v68 & v71	0.1972669596
S4	BI v43 & v44	0.2982887401
S5	AG v16 & v17	0.1316554044
S6	AG v76 & v77	0.1636124495
S7	AG v81 & v82 & v84	0.1360414603
S8	OL v3 v8-v13	0.1572083363
S9	OL v14 v15 v18 & v20	0.2396337241
S10	OL v36 v76	0.2055425721
S11	v46 v52	0.1534420356
S12	v85 v90 v92	0.1365062616
S13	v32 v35	0.1998396887

V94

V21	Store knowledge on customers	0.2782030039
V24	Store knowledge on competitors' markets	0.1953539435
V25	Store knowledge on employees skills	0.2767988673
V27	Store knowledge on methods and processes	0.1076866457
V29	Intranet infrastructure implemented in organisation	0.1170864380
V41	Extranet support infrastructure implemented for KM	0.1832520366
V42	Strategy is important for KM initiative	0.1981177211
V55	Willingness to share knowledge	0.1512459924
V86	Process Adoption	0.1321752295
V94	Satisfaction	0.2017470595
S1	BI v63 & v64	0.1441196181
S2	BI v53 v54 & v58	0.1268463104
S3	BI v68 & v71	0.0962520652
S4	BI v43 & v44	0.1455434165
S5	AG v16 & v17	0.1183016380
S6	AG v76 & v77	0.1470172900
S7	AG v81 & v82 & v84	0.1222428176
S8	OL v3 v8-v13	0.1438985194
S9	OL v14 v15 v18 & v20	0.2193454807
S10	OL v36 v76	0.1881406069
S11	v46 v52	0.1373412394
S12	v85 v90 v92	0.1221825498
S13	v32 v35	0.1788703495

S1

V21	Store knowledge on customers	0.4051800851
V24	Store knowledge on competitors' markets	0.2845171561
V25	Store knowledge on employees skills	0.4031350743
V27	Store knowledge on methods and processes	0.1568368553
V29	Intranet infrastructure implemented in organisation	0.1426339839
V41	Extranet support infrastructure implemented for KM	0.2223667112
V42	Strategy is important for KM initiative	0.2360019545
V55	Willingness to share knowledge	0.1835290595
V86	Process Adoption	0.2953706898
V94	Satisfaction	0.1441196181
S1	BI v63 & v64	0.3405944691
S2	BI v53 v54 & v58	0.2834622066
S3	BI v68 & v71	0.2150935466
S4	BI v43 & v44	0.3252444462
S5	AG v16 & v17	0.1435528176
S6	AG v76 & v77	0.1783977515
S7	AG v81 & v82 & v84	0.1483352318
S8	OL v3 v8-v13	0.1714149125
S9	OL v14 v15 v18 & v20	0.2612889037
S10	OL v36 v76	0.2241170083
S11	v46 v52	0.1673082593
S12	v85 v90 v92	0.1488420362
S13	v32 v35	0.2178987677

S2

V21	Store knowledge on customers	0.3566176452
V24	Store knowledge on competitors' markets	0.2504166467
V25	Store knowledge on employees skills	0.3548177370
V27	Store knowledge on methods and processes	0.1380393362
V29	Intranet infrastructure implemented in organisation	0.1255387353
V41	Extranet support infrastructure implemented for KM	0.1957151790
V42	Strategy is important for KM initiative	0.2077161844
V55	Willingness to share knowledge	0.1615323739
V86	Process Adoption	0.2599693414
V94	Satisfaction	0.1268463104
S1	BI v63 & v64	0.2834622066
S2	BI v53 v54 & v58	0.4026315670
S3	BI v68 & v71	0.1893137321
S4	BI v43 & v44	0.2862626096
S5	AG v16 & v17	0.1263474432
S6	AG v76 & v77	0.1570160735
S7	AG v81 & v82 & v84	0.1305566661
S8	OL v3 v8-v13	0.1508701555
S9	OL v14 v15 v18 & v20	0.2299723925
S10	OL v36 v76	0.1972556961
S11	v46 v52	0.1472557010
S12	v85 v90 v92	0.1310027280
S13	v32 v35	0.1917827363

S3

V21	Store knowledge on customers	0.2706045191
V24	Store knowledge on competitors' markets	0.1900182931
V25	Store knowledge on employees skills	0.2692387333
V27	Store knowledge on methods and processes	0.1047454289
V29	Intranet infrastructure implemented in organisation	0.0952598660
V41	Extranet support infrastructure implemented for KM	0.1485103517
V42	Strategy is important for KM initiative	0.1576168171
V55	Willingness to share knowledge	0.1225721468
V86	Process Adoption	0.1972669596
V94	Satisfaction	0.0962520652
S1	BI v63 & v64	0.2150935466
S2	BI v53 v54 & v58	0.1893137321
S3	BI v68 & v71	0.3378574123
S4	BI v43 & v44	0.2172185163
S5	AG v16 & v17	0.0958735204
S6	AG v76 & v77	0.1191451394
S7	AG v81 & v82 & v84	0.0990675148
S8	OL v3 v8-v13	0.1144815643
S9	OL v14 v15 v18 & v20	0.1745050182
S10	OL v36 v76	0.1496793092
S11	v46 v52	0.1117388853
S12	v85 v90 v92	0.0994059904
S13	v32 v35	0.1455263805

S4

V21	Store knowledge on customers	0.4091829734
V24	Store knowledge on competitors' markets	0.2873279812
V25	Store knowledge on employees skills	0.4071177592
V27	Store knowledge on methods and processes	0.1583862908
V29	Intranet infrastructure implemented in organisation	0.1440431052
V41	Extranet support infrastructure implemented for KM	0.2245635346
V42	Strategy is important for KM initiative	0.2383334843
V55	Willingness to share knowledge	0.1853421948
V86	Process Adoption	0.2982887401
V94	Satisfaction	0.1455434165
S1	BI v63 & v64	0.3252444462
S2	BI v53 v54 & v58	0.2862626096
S3	BI v68 & v71	0.2172185163
S4	BI v43 & v44	0.3622922867
S5	AG v16 & v17	0.1449710163
S6	AG v76 & v77	0.1801601931
S7	AG v81 & v82 & v84	0.1498006774
S8	OL v3 v8-v13	0.1731083687
S9	OL v14 v15 v18 & v20	0.2638702504
S10	OL v36 v76	0.2263311234
S11	v46 v52	0.1689611447
S12	v85 v90 v92	0.1503124886
S13	v32 v35	0.2200514510

S5

V21	Store knowledge on customers	0.2166042411
V24	Store knowledge on competitors' markets	0.1520993379
V25	Store knowledge on employees skills	0.2155110037
V27	Store knowledge on methods and processes	0.0838430349
V29	Intranet infrastructure implemented in organisation	0.0930877456
V41	Extranet support infrastructure implemented for KM	0.2723900802
V42	Strategy is important for KM initiative	0.1937239229
V55	Willingness to share knowledge	0.2248155534
V86	Process Adoption	0.1316554044
V94	Satisfaction	0.1183016380
S1	BI v63 & v64	0.1435528176
S2	BI v53 v54 & v58	0.1263474432
S3	BI v68 & v71	0.0958735204
S4	BI v43 & v44	0.1449710163
S5	AG v16 & v17	0.3910724471
S6	AG v76 & v77	0.2185299120
S7	AG v81 & v82 & v84	0.1817045613
S8	OL v3 v8-v13	0.1407071792
S9	OL v14 v15 v18 & v20	0.2144808994
S10	OL v36 v76	0.1839680783
S11	v46 v52	0.1091910095
S12	v85 v90 v92	0.0971393298
S13	v32 v35	0.1422080805

S6

V21	Store knowledge on customers	0.2691811295
V24	Store knowledge on competitors' markets	0.1890187900
V25	Store knowledge on employees skills	0.2678225278
V27	Store knowledge on methods and processes	0.1041944641
V29	Intranet infrastructure implemented in organisation	0.1156831665
V41	Extranet support infrastructure implemented for KM	0.3385080045
V42	Strategy is important for KM initiative	0.2407470144
V55	Willingness to share knowledge	0.2793855941
V86	Process Adoption	0.1636124495
V94	Satisfaction	0.1470172900
S1	BI v63 & v64	0.1783977515
S2	BI v53 v54 & v58	0.1570160735
S3	BI v68 & v71	0.1191451394
S4	BI v43 & v44	0.1801601931
S5	AG v16 & v17	0.2185299120
S6	AG v76 & v77	0.3309631942
S7	AG v81 & v82 & v84	0.2258101631
S8	OL v3 v8-v13	0.1748613842
S9	OL v14 v15 v18 & v20	0.2665423836
S10	OL v36 v76	0.2286231093
S11	v46 v52	0.1356952158
S12	v85 v90 v92	0.1207182019
S13	v32 v35	0.1767266029

S7

V21	Store knowledge on customers	0.2238203391
V24	Store knowledge on competitors' markets	0.1571664766
V25	Store knowledge on employees skills	0.2226906809
V27	Store knowledge on methods and processes	0.0866362376
V29	Intranet infrastructure implemented in organisation	0.0961889328
V41	Extranet support infrastructure implemented for KM	0.2814646648
V42	Strategy is important for KM initiative	0.2001777708
V55	Willingness to share knowledge	0.2323052086
V86	Process Adoption	0.1360414603
V94	Satisfaction	0.1222428176
S1	BI v63 & v64	0.1483352318
S2	BI v53 v54 & v58	0.1305566661
S3	BI v68 & v71	0.0990675148
S4	BI v43 & v44	0.1498006774
S5	AG v16 & v17	0.1817045613
S6	AG v76 & v77	0.2258101631
S7	AG v81 & v82 & v84	0.2635940692
S8	OL v3 v8-v13	0.1453947919
S9	OL v14 v15 v18 & v20	0.2216262589
S10	OL v36 v76	0.1900969134
S11	v46 v52	0.1128286715
S12	v85 v90 v92	0.1003754942
S13	v32 v35	0.1469456952

S8

V21	Store knowledge on customers	0.3308927972
V24	Store knowledge on competitors' markets	0.2323526774
V25	Store knowledge on employees skills	0.3292227265
V27	Store knowledge on methods and processes	0.1280817781
V29	Intranet infrastructure implemented in organisation	0.1392618283
V41	Extranet support infrastructure implemented for KM	0.2179587500
V42	Strategy is important for KM initiative	0.2356398960
V55	Willingness to share knowledge	0.1798909746
V86	Process Adoption	0.1572083363
V94	Satisfaction	0.1438985194
S1	BI v63 & v64	0.1714149125
S2	BI v53 v54 & v58	0.1508701555
S3	BI v68 & v71	0.1144815643
S4	BI v43 & v44	0.1731083687
S5	AG v16 & v17	0.1407071792
S6	AG v76 & v77	0.1748613842
S7	AG v81 & v82 & v84	0.1453947919
S8	OL v3 v8-v13	0.3325248112
S9	OL v14 v15 v18 & v20	0.2608880517
S10	OL v36 v76	0.2237731829
S11	v46 v52	0.1633527541
S12	v85 v90 v92	0.1453231098
S13	v32 v35	0.2127472006

S9

V21	Store knowledge on customers	0.5043821156
V24	Store knowledge on competitors' markets	0.3541767484
V25	Store knowledge on employees skills	0.5018364156
V27	Store knowledge on methods and processes	0.1952359155
V29	Intranet infrastructure implemented in organisation	0.2122777413
V41	Extranet support infrastructure implemented for KM	0.3322359881
V42	Strategy is important for KM initiative	0.3591874778
V55	Willingness to share knowledge	0.2742090221
V86	Process Adoption	0.2396337241
V94	Satisfaction	0.2193454807
S1	BI v63 & v64	0.2612889037
S2	BI v53 v54 & v58	0.2299723925
S3	BI v68 & v71	0.1745050182
S4	BI v43 & v44	0.2638702504
S5	AG v16 & v17	0.2144808994
S6	AG v76 & v77	0.2665423836
S7	AG v81 & v82 & v84	0.2216262589
S8	OL v3 v8-v13	0.2608880517
S9	OL v14 v15 v18 & v20	0.4698992527
S10	OL v36 v76	0.3410989673
S11	v46 v52	0.2489997014
S12	v85 v90 v92	0.2215169934
S13	v32 v35	0.3242919884

S10

V21	Store knowledge on customers	0.4326269090
V24	Store knowledge on competitors' markets	0.3037902955
V25	Store knowledge on employees skills	0.4304433695
V27	Store knowledge on methods and processes	0.1674609548
V29	Intranet infrastructure implemented in organisation	0.1820783494
V41	Extranet support infrastructure implemented for KM	0.2849709063
V42	Strategy is important for KM initiative	0.3080881806
V55	Willingness to share knowledge	0.2351990644
V86	Process Adoption	0.2055425721
V94	Satisfaction	0.1881406069
S1	BI v63 & v64	0.2241170083
S2	BI v53 v54 & v58	0.1972556961
S3	BI v68 & v71	0.1496793092
S4	BI v43 & v44	0.2263311234
S5	AG v16 & v17	0.1839680783
S6	AG v76 & v77	0.2286231093
S7	AG v81 & v82 & v84	0.1900969134
S8	OL v3 v8-v13	0.2237731829
S9	OL v14 v15 v18 & v20	0.3410989673
S10	OL v36 v76	0.3714803793
S11	v46 v52	0.2135761119
S12	v85 v90 v92	0.1900031924
S13	v32 v35	0.2781570485

S11

V21	Store knowledge on customers	0.3402882564
V24	Store knowledge on competitors' markets	0.2389501620
V25	Store knowledge on employees skills	0.3385707653
V27	Store knowledge on methods and processes	0.1317185666
V29	Intranet infrastructure implemented in organisation	0.1769545860
V41	Extranet support infrastructure implemented for KM	0.1691394573
V42	Strategy is important for KM initiative	0.2249020733
V55	Willingness to share knowledge	0.1395982580
V86	Process Adoption	0.1534420356
V94	Satisfaction	0.1373412394
S1	BI v63 & v64	0.1673082593
S2	BI v53 v54 & v58	0.1472557010
S3	BI v68 & v71	0.1117388853
S4	BI v43 & v44	0.1689611447
S5	AG v16 & v17	0.1091910095
S6	AG v76 & v77	0.1356952158
S7	AG v81 & v82 & v84	0.1128286715
S8	OL v3 v8-v13	0.1633527541
S9	OL v14 v15 v18 & v20	0.2489997014
S10	OL v36 v76	0.2135761119
S11	v46 v52	0.3485036514
S12	v85 v90 v92	0.1846564205
S13	v32 v35	0.2703295890

Appendix G

S12

V21	Store knowledge on customers	0.3027298067
V24	Store knowledge on competitors' markets	0.2125766463
V25	Store knowledge on employees skills	0.3012018793
V27	Store knowledge on methods and processes	0.1171804652
V29	Intranet infrastructure implemented in organisation	0.1574236742
V41	Extranet support infrastructure implemented for KM	0.1504711204
V42	Strategy is important for KM initiative	0.2000790797
V55	Willingness to share knowledge	0.1241904558
V86	Process Adoption	0.1365062616
V94	Satisfaction	0.1221825498
S1	BI v63 & v64	0.1488420362
S2	BI v53 v54 & v58	0.1310027280
S3	BI v68 & v71	0.0994059904
S4	BI v43 & v44	0.1503124886
S5	AG v16 & v17	0.0971393298
S6	AG v76 & v77	0.1207182019
S7	AG v81 & v82 & v84	0.1003754942
S8	OL v3 v8-v13	0.1453231098
S9	OL v14 v15 v18 & v20	0.2215169934
S10	OL v36 v76	0.1900031924
S11	v46 v52	0.1846564205
S12	v85 v90 v92	0.2381224214
S13	v32 v35	0.2404926490

S13

V21	Store knowledge on customers	0.4431842878
V24	Store knowledge on competitors' markets	0.3112036790
V25	Store knowledge on employees skills	0.4409474634
V27	Store knowledge on methods and processes	0.1715474984
V29	Intranet infrastructure implemented in organisation	0.2304619413
V41	Extranet support infrastructure implemented for KM	0.2202836815
V42	Strategy is important for KM initiative	0.2929077431
V55	Willingness to share knowledge	0.1818098432
V86	Process Adoption	0.1998396887
V94	Satisfaction	0.1788703495
S1	BI v63 & v64	0.2178987677
S2	BI v53 v54 & v58	0.1917827363
S3	BI v68 & v71	0.1455263805
S4	BI v43 & v44	0.2200514510
S5	AG v16 & v17	0.1422080805
S6	AG v76 & v77	0.1767266029
S7	AG v81 & v82 & v84	0.1469456952
S8	OL v3 v8-v13	0.2127472006
S9	OL v14 v15 v18 & v20	0.3242919884
S10	OL v36 v76	0.2781570485
S11	v46 v52	0.2703295890
S12	v85 v90 v92	0.2404926490
S13	v32 v35	0.3436662707

Determinant 3.588756E-19 Ln -42.471311

Appendix G

G.5.2 Fit Statistics

Fit Function	16.5405
Goodness of Fit Index (GFI)	0.4801
GFI Adjusted for Degrees of Freedom (AGFI)	0.3478
Root Mean Square Residual (RMR)	0.0615
Parsimonious GFI (Mulaik, 1989)	0.4175
Chi-Square	20245.5713
Chi-Square DF	220
Pr > Chi-Square	<.0001
Independence Model Chi-Square	47234
Independence Model Chi-Square DF	253
RMSEA Estimate	0.2727
RMSEA 90% Lower Confidence Limit	.
RMSEA 90% Upper Confidence Limit	.
ECVI Estimate	16.6338
ECVI 90% Lower Confidence Limit	.
ECVI 90% Upper Confidence Limit	.
Probability of Close Fit	.
Bentler's Comparative Fit Index	0.5738
Normal Theory Reweighted LS Chi-Square	15241.1573
Akaike's Information Criterion	19805.5713
Bozdogan's (1987) CAIC	18461.2182
Schwarz's Bayesian Criterion	18681.2182
McDonald's (1989) Centrality	0.0003
Bentler & Bonett's (1980) Non-normed Index	0.5098
Bentler & Bonett's (1980) NFI	0.5714
James, Mulaik, & Brett (1982) Parsimonious NFI	0.4969
Z-Test of Wilson & Hilferty (1931)	110.6215
Bollen (1986) Normed Index Rhol	0.5071
Bollen (1988) Non-normed Index Delta2	0.5741
Hoelster's (1983) Critical N	17

WARNING: The central parameter matrix `_PHI_` has probably 1 negative eigenvalue(s).

G.6 Residuals

G.6.1 Raw Residual Matrix

V21

V21	Store knowledge on customers	-.0001183518
V24	Store knowledge on competitors' markets	-.0095602528
V25	Store knowledge on employees skills	0.0004551356
V27	Store knowledge on methods and processes	0.0125326427
V29	Intranet infrastructure implemented in organisation	-.0922999335
V41	Extranet support infrastructure implemented for KM	-.0968196071
V42	Strategy is important for KM initiative	0.0707828817
V55	Willingness to share knowledge	-.0223286428
V86	Process Adoption	0.1216404991
V94	Satisfaction	0.0049890787
S1	BI v63 & v64	-.0174024243
S2	BI v53 v54 & v58	0.0177541021
S3	BI v68 & v71	0.0391734209
S4	BI v43 & v44	-.0036192032
S5	AG v16 & v17	0.2362860683
S6	AG v76 & v77	-.0295881971
S7	AG v81 & v82 & v84	-.0004071622
S8	OL v3 v8-v13	-.0310183262
S9	OL v14 v15 v18 & v20	0.0169874414
S10	OL v36 v76	-.0413105783
S11	v46 v52	0.0263835605
S12	v85 v90 v92	-.0203370314
S13	v32 v35	-.0137523804

V24

V21	Store knowledge on customers	-.0095602528
V24	Store knowledge on competitors' markets	-.0000506330
V25	Store knowledge on employees skills	0.0008320832
V27	Store knowledge on methods and processes	0.0301550716
V29	Intranet infrastructure implemented in organisation	0.1027114001
V41	Extranet support infrastructure implemented for KM	-.2145997974
V42	Strategy is important for KM initiative	0.0919689199
V55	Willingness to share knowledge	-.1273952249
V86	Process Adoption	0.0888458347
V94	Satisfaction	0.0594336055
S1	BI v63 & v64	-.0523589915
S2	BI v53 v54 & v58	0.0077404856
S3	BI v68 & v71	0.1052718628
S4	BI v43 & v44	-.0402260263
S5	AG v16 & v17	0.2100994230
S6	AG v76 & v77	-.1427342508
S7	AG v81 & v82 & v84	-.0720189320
S8	OL v3 v8-v13	0.0148216024
S9	OL v14 v15 v18 & v20	0.0638449550
S10	OL v36 v76	-.0560664278
S11	v46 v52	0.0584991325
S12	v85 v90 v92	0.1301555007
S13	v32 v35	0.1081337873

V25

V21	Store knowledge on customers	0.0004551356
V24	Store knowledge on competitors' markets	0.0008320832
V25	Store knowledge on employees skills	-.0001548793
V27	Store knowledge on methods and processes	-.0191565561
V29	Intranet infrastructure implemented in organisation	-.0884781906
V41	Extranet support infrastructure implemented for KM	-.1203083599
V42	Strategy is important for KM initiative	0.0524475129
V55	Willingness to share knowledge	0.0088840682
V86	Process Adoption	0.1460964037
V94	Satisfaction	0.0265631006
S1	BI v63 & v64	-.0213412653
S2	BI v53 v54 & v58	0.0506753346
S3	BI v68 & v71	0.0603956570
S4	BI v43 & v44	-.0101931213
S5	AG v16 & v17	0.2261423901
S6	AG v76 & v77	-.0187417474
S7	AG v81 & v82 & v84	0.0149243933
S8	OL v3 v8-v13	-.0332219481
S9	OL v14 v15 v18 & v20	0.0168223615
S10	OL v36 v76	-.0303126510
S11	v46 v52	0.0256915862
S12	v85 v90 v92	-.0010131805
S13	v32 v35	0.0039225642

V27

V21	Store knowledge on customers	0.0125326427
V24	Store knowledge on competitors' markets	0.0301550716
V25	Store knowledge on employees skills	-.0191565561
V27	Store knowledge on methods and processes	-.0000156738
V29	Intranet infrastructure implemented in organisation	-.0029422504
V41	Extranet support infrastructure implemented for KM	0.0629408965
V42	Strategy is important for KM initiative	0.0502191866
V55	Willingness to share knowledge	0.0042771271
V86	Process Adoption	0.0539333089
V94	Satisfaction	-.0003127965
S1	BI v63 & v64	0.0594332881
S2	BI v53 v54 & v58	0.0548961342
S3	BI v68 & v71	0.0604321600
S4	BI v43 & v44	0.0486355362
S5	AG v16 & v17	0.0940520289
S6	AG v76 & v77	-.0006322478
S7	AG v81 & v82 & v84	0.0098330904
S8	OL v3 v8-v13	-.0048656874
S9	OL v14 v15 v18 & v20	0.0009380733
S10	OL v36 v76	-.0035820779
S11	v46 v52	0.0721587119
S12	v85 v90 v92	0.0126269752
S13	v32 v35	0.0097601112

V29

V21	Store knowledge on customers	-.0922999335
V24	Store knowledge on competitors' markets	0.1027114001
V25	Store knowledge on employees skills	-.0884781906
V27	Store knowledge on methods and processes	-.0029422504
V29	Intranet infrastructure implemented in organisation	-.0000243763
V41	Extranet support infrastructure implemented for KM	-.0200976927
V42	Strategy is important for KM initiative	0.0221914164
V55	Willingness to share knowledge	-.0376395637
V86	Process Adoption	0.0103090789
V94	Satisfaction	0.0063776630
S1	BI v63 & v64	-.0433390845
S2	BI v53 v54 & v58	-.0131744957
S3	BI v68 & v71	0.0585170223
S4	BI v43 & v44	-.0272817593
S5	AG v16 & v17	0.1126213656
S6	AG v76 & v77	-.0331085731
S7	AG v81 & v82 & v84	-.0312023449
S8	OL v3 v8-v13	-.0324424349
S9	OL v14 v15 v18 & v20	-.0325279921
S10	OL v36 v76	-.0484666717
S11	v46 v52	0.0193881828
S12	v85 v90 v92	0.0316303067
S13	v32 v35	0.0005465747

V41

V21	Store knowledge on customers	-.0968196071
V24	Store knowledge on competitors' markets	-.2145997974
V25	Store knowledge on employees skills	-.1203083599
V27	Store knowledge on methods and processes	0.0629408965
V29	Intranet infrastructure implemented in organisation	-.0200976927
V41	Extranet support infrastructure implemented for KM	0.0001099876
V42	Strategy is important for KM initiative	0.0320378186
V55	Willingness to share knowledge	0.0163992202
V86	Process Adoption	-.0424962844
V94	Satisfaction	-.0773508165
S1	BI v63 & v64	0.0375525407
S2	BI v53 v54 & v58	-.0274059065
S3	BI v68 & v71	-.0988544822
S4	BI v43 & v44	0.0247268375
S5	AG v16 & v17	-.0053601047
S6	AG v76 & v77	0.0086131536
S7	AG v81 & v82 & v84	-.0213821586
S8	OL v3 v8-v13	-.0194631166
S9	OL v14 v15 v18 & v20	-.0950739886
S10	OL v36 v76	0.0235742483
S11	v46 v52	0.0970961408
S12	v85 v90 v92	-.1233408299
S13	v32 v35	-.0486913544

V42

V21	Store knowledge on customers	0.0707828817
V24	Store knowledge on competitors' markets	0.0919689199
V25	Store knowledge on employees skills	0.0524475129
V27	Store knowledge on methods and processes	0.0502191866
V29	Intranet infrastructure implemented in organisation	0.0221914164
V41	Extranet support infrastructure implemented for KM	0.0320378186
V42	Strategy is important for KM initiative	0.0000610419
V55	Willingness to share knowledge	-.0369180906
V86	Process Adoption	0.0658298144
V94	Satisfaction	0.0005195964
S1	BI v63 & v64	0.1250520786
S2	BI v53 v54 & v58	0.0687102669
S3	BI v68 & v71	0.0796428465
S4	BI v43 & v44	0.1614190412
S5	AG v16 & v17	0.1462739390
S6	AG v76 & v77	-.0583373486
S7	AG v81 & v82 & v84	-.0280233454
S8	OL v3 v8-v13	-.0024933575
S9	OL v14 v15 v18 & v20	0.0156153530
S10	OL v36 v76	-.0412311732
S11	v46 v52	0.0672020660
S12	v85 v90 v92	-.0020785085
S13	v32 v35	0.0125199679

V55

V21	Store knowledge on customers	-.0223286428
V24	Store knowledge on competitors' markets	-.1273952249
V25	Store knowledge on employees skills	0.0088840682
V27	Store knowledge on methods and processes	0.0042771271
V29	Intranet infrastructure implemented in organisation	-.0376395637
V41	Extranet support infrastructure implemented for KM	0.0163992202
V42	Strategy is important for KM initiative	-.0369180906
V55	Willingness to share knowledge	0.0000373744
V86	Process Adoption	0.0372961415
V94	Satisfaction	-.0241620584
S1	BI v63 & v64	-.0047785510
S2	BI v53 v54 & v58	0.0413889437
S3	BI v68 & v71	-.0071517386
S4	BI v43 & v44	-.0219999916
S5	AG v16 & v17	-.0058509675
S6	AG v76 & v77	0.0064576741
S7	AG v81 & v82 & v84	-.0028528967
S8	OL v3 v8-v13	-.0171375517
S9	OL v14 v15 v18 & v20	-.0365886008
S10	OL v36 v76	0.0368069282
S11	v46 v52	0.0465493476
S12	v85 v90 v92	-.0570573406
S13	v32 v35	-.0100581778

V86

V21	Store knowledge on customers	0.1216404991
V24	Store knowledge on competitors' markets	0.0888458347
V25	Store knowledge on employees skills	0.1460964037
V27	Store knowledge on methods and processes	0.0539333089
V29	Intranet infrastructure implemented in organisation	0.0103090789
V41	Extranet support infrastructure implemented for KM	-.0424962844
V42	Strategy is important for KM initiative	0.0658298144
V55	Willingness to share knowledge	0.0372961415
V86	Process Adoption	0.0000795323
V94	Satisfaction	0.1172119163
S1	BI v63 & v64	-.0057855957
S2	BI v53 v54 & v58	0.0468393717
S3	BI v68 & v71	0.0497207244
S4	BI v43 & v44	-.0205758310
S5	AG v16 & v17	0.1613076070
S6	AG v76 & v77	0.0390302635
S7	AG v81 & v82 & v84	0.0898408726
S8	OL v3 v8-v13	0.0323607911
S9	OL v14 v15 v18 & v20	0.0712515044
S10	OL v36 v76	0.0803057736
S11	v46 v52	0.0431107061
S12	v85 v90 v92	0.0965470096
S13	v32 v35	0.0806651224

V94

V21	Store knowledge on customers	0.0049890787
V24	Store knowledge on competitors' markets	0.0594336055
V25	Store knowledge on employees skills	0.0265631006
V27	Store knowledge on methods and processes	-.0003127965
V29	Intranet infrastructure implemented in organisation	0.0063776630
V41	Extranet support infrastructure implemented for KM	-.0773508165
V42	Strategy is important for KM initiative	0.0005195964
V55	Willingness to share knowledge	-.0241620584
V86	Process Adoption	0.1172119163
V94	Satisfaction	0.0000156129
S1	BI v63 & v64	0.0109450896
S2	BI v53 v54 & v58	0.0653186506
S3	BI v68 & v71	0.0365903879
S4	BI v43 & v44	0.0026906460
S5	AG v16 & v17	0.0633955888
S6	AG v76 & v77	-.0255846806
S7	AG v81 & v82 & v84	0.0238808168
S8	OL v3 v8-v13	0.0090398167
S9	OL v14 v15 v18 & v20	0.0088923705
S10	OL v36 v76	-.0166150388
S11	v46 v52	-.0314479029
S12	v85 v90 v92	0.0360283600
S13	v32 v35	0.0057252795

S1

V21	Store knowledge on customers	-.0174024243
V24	Store knowledge on competitors' markets	-.0523589915
V25	Store knowledge on employees skills	-.0213412653
V27	Store knowledge on methods and processes	0.0594332881
V29	Intranet infrastructure implemented in organisation	-.0433390845
V41	Extranet support infrastructure implemented for KM	0.0375525407
V42	Strategy is important for KM initiative	0.1250520786
V55	Willingness to share knowledge	-.0047785510
V86	Process Adoption	-.0057855957
V94	Satisfaction	0.0109450896
S1	BI v63 & v64	0.0000528534
S2	BI v53 v54 & v58	-.0003827955
S3	BI v68 & v71	-.0111009622
S4	BI v43 & v44	0.0049295222
S5	AG v16 & v17	0.0950682488
S6	AG v76 & v77	-.0415181429
S7	AG v81 & v82 & v84	0.0090568480
S8	OL v3 v8-v13	-.0134616213
S9	OL v14 v15 v18 & v20	-.0390552779
S10	OL v36 v76	-.0253428479
S11	v46 v52	0.0686111414
S12	v85 v90 v92	0.0183007056
S13	v32 v35	-.0110264590

S2

V21	Store knowledge on customers	0.0177541021
V24	Store knowledge on competitors' markets	0.0077404856
V25	Store knowledge on employees skills	0.0506753346
V27	Store knowledge on methods and processes	0.0548961342
V29	Intranet infrastructure implemented in organisation	-.0131744957
V41	Extranet support infrastructure implemented for KM	-.0274059065
V42	Strategy is important for KM initiative	0.0687102669
V55	Willingness to share knowledge	0.0413889437
V86	Process Adoption	0.0468393717
V94	Satisfaction	0.0653186506
S1	BI v63 & v64	-.0003827955
S2	BI v53 v54 & v58	-.0000032461
S3	BI v68 & v71	0.0129618006
S4	BI v43 & v44	-.0163047145
S5	AG v16 & v17	0.1349486034
S6	AG v76 & v77	0.0024703780
S7	AG v81 & v82 & v84	0.0150708486
S8	OL v3 v8-v13	0.0399026329
S9	OL v14 v15 v18 & v20	0.0264152907
S10	OL v36 v76	0.0164991978
S11	v46 v52	0.0728750088
S12	v85 v90 v92	0.0556772625
S13	v32 v35	0.0442677423

S3

V21	Store knowledge on customers	0.0391734209
V24	Store knowledge on competitors' markets	0.1052718628
V25	Store knowledge on employees skills	0.0603956570
V27	Store knowledge on methods and processes	0.0604321600
V29	Intranet infrastructure implemented in organisation	0.0585170223
V41	Extranet support infrastructure implemented for KM	-.0988544822
V42	Strategy is important for KM initiative	0.0796428465
V55	Willingness to share knowledge	-.0071517386
V86	Process Adoption	0.0497207244
V94	Satisfaction	0.0365903879
S1	BI v63 & v64	-.0111009622
S2	BI v53 v54 & v58	0.0129618006
S3	BI v68 & v71	0.0000174006
S4	BI v43 & v44	0.0005115309
S5	AG v16 & v17	0.1390371475
S6	AG v76 & v77	-.0067879656
S7	AG v81 & v82 & v84	-.0135942269
S8	OL v3 v8-v13	-.0331972713
S9	OL v14 v15 v18 & v20	0.0434831892
S10	OL v36 v76	0.0445218576
S11	v46 v52	0.1114013070
S12	v85 v90 v92	0.1274057559
S13	v32 v35	0.1084240874

S4

V21	Store knowledge on customers	-.0036192032
V24	Store knowledge on competitors' markets	-.0402260263
V25	Store knowledge on employees skills	-.0101931213
V27	Store knowledge on methods and processes	0.0486355362
V29	Intranet infrastructure implemented in organisation	-.0272817593
V41	Extranet support infrastructure implemented for KM	0.0247268375
V42	Strategy is important for KM initiative	0.1614190412
V55	Willingness to share knowledge	-.0219999916
V86	Process Adoption	-.0205758310
V94	Satisfaction	0.0026906460
S1	BI v63 & v64	0.0049295222
S2	BI v53 v54 & v58	-.0163047145
S3	BI v68 & v71	0.0005115309
S4	BI v43 & v44	0.0001117133
S5	AG v16 & v17	0.1069201534
S6	AG v76 & v77	-.0275304551
S7	AG v81 & v82 & v84	-.0081031523
S8	OL v3 v8-v13	-.0290329327
S9	OL v14 v15 v18 & v20	-.0249350239
S10	OL v36 v76	-.0135142567
S11	v46 v52	0.0879254794
S12	v85 v90 v92	0.0197851089
S13	v32 v35	-.0027332533

S5

V21	Store knowledge on customers	0.2362860683
V24	Store knowledge on competitors' markets	0.2100994230
V25	Store knowledge on employees skills	0.2261423901
V27	Store knowledge on methods and processes	0.0940520289
V29	Intranet infrastructure implemented in organisation	0.1126213656
V41	Extranet support infrastructure implemented for KM	-.0053601047
V42	Strategy is important for KM initiative	0.1462739390
V55	Willingness to share knowledge	-.0058509675
V86	Process Adoption	0.1613076070
V94	Satisfaction	0.0633955888
S1	BI v63 & v64	0.0950682488
S2	BI v53 v54 & v58	0.1349486034
S3	BI v68 & v71	0.1390371475
S4	BI v43 & v44	0.1069201534
S5	AG v16 & v17	0.0000527129
S6	AG v76 & v77	-.0154127212
S7	AG v81 & v82 & v84	-.0348363332
S8	OL v3 v8-v13	0.1007914653
S9	OL v14 v15 v18 & v20	0.1422262162
S10	OL v36 v76	0.1171678315
S11	v46 v52	0.1841654242
S12	v85 v90 v92	0.1180497319
S13	v32 v35	0.1740219248

S6

V21	Store knowledge on customers	-.0295881971
V24	Store knowledge on competitors' markets	-.1427342508
V25	Store knowledge on employees skills	-.0187417474
V27	Store knowledge on methods and processes	-.0006322478
V29	Intranet infrastructure implemented in organisation	-.0331085731
V41	Extranet support infrastructure implemented for KM	0.0086131536
V42	Strategy is important for KM initiative	-.0583373486
V55	Willingness to share knowledge	0.0064576741
V86	Process Adoption	0.0390302635
V94	Satisfaction	-.0255846806
S1	BI v63 & v64	-.0415181429
S2	BI v53 v54 & v58	0.0024703780
S3	BI v68 & v71	-.0067879656
S4	BI v43 & v44	-.0275304551
S5	AG v16 & v17	-.0154127212
S6	AG v76 & v77	0.0000299082
S7	AG v81 & v82 & v84	0.0067120231
S8	OL v3 v8-v13	-.0582091051
S9	OL v14 v15 v18 & v20	-.0446606196
S10	OL v36 v76	0.0565690019
S11	v46 v52	0.0016504250
S12	v85 v90 v92	-.0661537892
S13	v32 v35	-.0240253780

S7

V21	Store knowledge on customers	-.0004071622
V24	Store knowledge on competitors' markets	-.0720189320
V25	Store knowledge on employees skills	0.0149243933
V27	Store knowledge on methods and processes	0.0098330904
V29	Intranet infrastructure implemented in organisation	-.0312023449
V41	Extranet support infrastructure implemented for KM	-.0213821586
V42	Strategy is important for KM initiative	-.0280233454
V55	Willingness to share knowledge	-.0028528967
V86	Process Adoption	0.0898408726
V94	Satisfaction	0.0238808168
S1	BI v63 & v64	0.0090568480
S2	BI v53 v54 & v58	0.0150708486
S3	BI v68 & v71	-.0135942269
S4	BI v43 & v44	-.0081031523
S5	AG v16 & v17	-.0348363332
S6	AG v76 & v77	0.0067120231
S7	AG v81 & v82 & v84	-.0000042411
S8	OL v3 v8-v13	-.0022611260
S9	OL v14 v15 v18 & v20	-.0138931441
S10	OL v36 v76	0.0415815086
S11	v46 v52	-.0166173636
S12	v85 v90 v92	-.0363579012
S13	v32 v35	-.0099392456

S8

V21	Store knowledge on customers	-.0310183262
V24	Store knowledge on competitors' markets	0.0148216024
V25	Store knowledge on employees skills	-.0332219481
V27	Store knowledge on methods and processes	-.0048656874
V29	Intranet infrastructure implemented in organisation	-.0324424349
V41	Extranet support infrastructure implemented for KM	-.0194631166
V42	Strategy is important for KM initiative	-.0024933575
V55	Willingness to share knowledge	-.0171375517
V86	Process Adoption	0.0323607911
V94	Satisfaction	0.0090398167
S1	BI v63 & v64	-.0134616213
S2	BI v53 v54 & v58	0.0399026329
S3	BI v68 & v71	-.0331972713
S4	BI v43 & v44	-.0290329327
S5	AG v16 & v17	0.1007914653
S6	AG v76 & v77	-.0582091051
S7	AG v81 & v82 & v84	-.0022611260
S8	OL v3 v8-v13	0.0000350112
S9	OL v14 v15 v18 & v20	0.0575784045
S10	OL v36 v76	-.0195804742
S11	v46 v52	0.0099691379
S12	v85 v90 v92	-.0413617556
S13	v32 v35	-.0133349947

S9

V21	Store knowledge on customers	0.0169874414
V24	Store knowledge on competitors' markets	0.0638449550
V25	Store knowledge on employees skills	0.0168223615
V27	Store knowledge on methods and processes	0.0009380733
V29	Intranet infrastructure implemented in organisation	-.0325279921
V41	Extranet support infrastructure implemented for KM	-.0950739886
V42	Strategy is important for KM initiative	0.0156153530
V55	Willingness to share knowledge	-.0365886008
V86	Process Adoption	0.0712515044
V94	Satisfaction	0.0088923705
S1	BI v63 & v64	-.0390552779
S2	BI v53 v54 & v58	0.0264152907
S3	BI v68 & v71	0.0434831892
S4	BI v43 & v44	-.0249350239
S5	AG v16 & v17	0.1422262162
S6	AG v76 & v77	-.0446606196
S7	AG v81 & v82 & v84	-.0138931441
S8	OL v3 v8-v13	0.0575784045
S9	OL v14 v15 v18 & v20	0.0000384177
S10	OL v36 v76	-.0106846431
S11	v46 v52	0.0131082646
S12	v85 v90 v92	-.0226254834
S13	v32 v35	0.0014410631

S10

V21	Store knowledge on customers	-.0413105783
V24	Store knowledge on competitors' markets	-.0560664278
V25	Store knowledge on employees skills	-.0303126510
V27	Store knowledge on methods and processes	-.0035820779
V29	Intranet infrastructure implemented in organisation	-.0484666717
V41	Extranet support infrastructure implemented for KM	0.0235742483
V42	Strategy is important for KM initiative	-.0412311732
V55	Willingness to share knowledge	0.0368069282
V86	Process Adoption	0.0803057736
V94	Satisfaction	-.0166150388
S1	BI v63 & v64	-.0253428479
S2	BI v53 v54 & v58	0.0164991978
S3	BI v68 & v71	0.0445218576
S4	BI v43 & v44	-.0135142567
S5	AG v16 & v17	0.1171678315
S6	AG v76 & v77	0.0565690019
S7	AG v81 & v82 & v84	0.0415815086
S8	OL v3 v8-v13	-.0195804742
S9	OL v14 v15 v18 & v20	-.0106846431
S10	OL v36 v76	-.0000023192
S11	v46 v52	0.0121258969
S12	v85 v90 v92	-.0443393081
S13	v32 v35	-.0107021119

Appendix G

S11

V21	Store knowledge on customers	0.0263835605
V24	Store knowledge on competitors' markets	0.0584991325
V25	Store knowledge on employees skills	0.0256915862
V27	Store knowledge on methods and processes	0.0721587119
V29	Intranet infrastructure implemented in organisation	0.0193881828
V41	Extranet support infrastructure implemented for KM	0.0970961408
V42	Strategy is important for KM initiative	0.0672020660
V55	Willingness to share knowledge	0.0465493476
V86	Process Adoption	0.0431107061
V94	Satisfaction	-0.0314479029
S1	BI v63 & v64	0.0686111414
S2	BI v53 v54 & v58	0.0728750088
S3	BI v68 & v71	0.1114013070
S4	BI v43 & v44	0.0879254794
S5	AG v16 & v17	0.1841654242
S6	AG v76 & v77	0.0016504250
S7	AG v81 & v82 & v84	-0.0166173636
S8	OL v3 v8-v13	0.0099691379
S9	OL v14 v15 v18 & v20	0.0131082646
S10	OL v36 v76	0.0121258969
S11	v46 v52	-0.0000495614
S12	v85 v90 v92	-0.0037071133
S13	v32 v35	0.0012481654

S12

V21	Store knowledge on customers	-0.0203370314
V24	Store knowledge on competitors' markets	0.1301555007
V25	Store knowledge on employees skills	-0.0010131805
V27	Store knowledge on methods and processes	0.0126269752
V29	Intranet infrastructure implemented in organisation	0.0316303067
V41	Extranet support infrastructure implemented for KM	-0.1233408299
V42	Strategy is important for KM initiative	-0.0020785085
V55	Willingness to share knowledge	-0.0570573406
V86	Process Adoption	0.0965470096
V94	Satisfaction	0.0360283600
S1	BI v63 & v64	0.0183007056
S2	BI v53 v54 & v58	0.0556772625
S3	BI v68 & v71	0.1274057559
S4	BI v43 & v44	0.0197851089
S5	AG v16 & v17	0.1180497319
S6	AG v76 & v77	-0.0661537892
S7	AG v81 & v82 & v84	-0.0363579012
S8	OL v3 v8-v13	-0.0413617556
S9	OL v14 v15 v18 & v20	-0.0226254834
S10	OL v36 v76	-0.0443393081
S11	v46 v52	-0.0037071133
S12	v85 v90 v92	-0.0000077005
S13	v32 v35	0.0003569183

S13

V21	Store knowledge on customers	-0.0137523804
V24	Store knowledge on competitors' markets	0.1081337873
V25	Store knowledge on employees skills	0.0039225642
V27	Store knowledge on methods and processes	0.0097601112
V29	Intranet infrastructure implemented in organisation	0.0005465747
V41	Extranet support infrastructure implemented for KM	-0.0486913544
V42	Strategy is important for KM initiative	0.0125199679
V55	Willingness to share knowledge	-0.0100581778
V86	Process Adoption	0.0806651224
V94	Satisfaction	0.0057252795
S1	BI v63 & v64	-0.0110264590
S2	BI v53 v54 & v58	0.0442677423
S3	BI v68 & v71	0.1084240874
S4	BI v43 & v44	-0.0027332533
S5	AG v16 & v17	0.1740219248
S6	AG v76 & v77	-0.0240253780
S7	AG v81 & v82 & v84	-0.0099392456
S8	OL v3 v8-v13	-0.0133349947
S9	OL v14 v15 v18 & v20	0.0014410631
S10	OL v36 v76	-0.0107021119
S11	v46 v52	0.0012481654
S12	v85 v90 v92	0.0003569183
S13	v32 v35	-0.0000358307

Average Absolute Residual	0.041510
Average Off-diagonal Absolute Residual	0.045279

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G.6.2 Rank Order Matrix

Rank Order of the 10 Largest Raw Residuals

Row	Column	Residual
S5	V21	0.23629
S5	V25	0.22614
V41	V24	-0.21460
S5	V24	0.21010
S11	S5	0.18417
S13	S5	0.17402
S4	V42	0.16142
S5	V86	0.16131
S5	V42	0.14627
V86	V25	0.14610

G6.3 Asymptotically Standardised Residual Matrix

	V21
V21 Store knowledge on customers	0.00000000
V24 Store knowledge on competitors' markets	-6.46704045
V25 Store knowledge on employees skills	10.51569865
V27 Store knowledge on methods and processes	9.44036859
V29 Intranet infrastructure implemented in organisation	-13.20040384
V41 Extranet support infrastructure implemented for KM	-6.39965824
V42 Strategy is important for KM initiative	7.88788294
V55 Willingness to share knowledge	-4.24428857
V86 Process Adoption	17.24639477
V94 Satisfaction	1.19092313
S1 BI v63 & v64	-9.19916730
S2 BI v53 v54 & v58	2.44430869
S3 BI v68 & v71	4.72750677
S4 BI v43 & v44	-1.24830091
S5 AG v16 & v17	22.22104693
S6 AG v76 & v77	-6.24126044
S7 AG v81 & v82 & v84	-0.06895138
S8 OL v3 v8-v13	-5.13946028
S9 OL v14 v15 v18 & v20	5.24179748
S10 OL v36 v76	-11.08124428
S11 v46 v52	3.92794590
S12 v85 v90 v92	-4.25952947
S13 v32 v35	-13.41851388

	V24
V21 Store knowledge on customers	-6.46704045
V24 Store knowledge on competitors' markets	0.00000000
V25 Store knowledge on employees skills	0.49319490
V27 Store knowledge on methods and processes	3.90396028
V29 Intranet infrastructure implemented in organisation	11.47784800
V41 Extranet support infrastructure implemented for KM	-12.17588614
V42 Strategy is important for KM initiative	7.24798550
V55 Willingness to share knowledge	-13.65410763
V86 Process Adoption	9.06076059
V94 Satisfaction	9.35360076
S1 BI v63 & v64	-7.73968286
S2 BI v53 v54 & v58	0.78552970
S3 BI v68 & v71	10.37017981
S4 BI v43 & v44	-5.52543491
S5 AG v16 & v17	17.35035095
S6 AG v76 & v77	-16.09376735
S7 AG v81 & v82 & v84	-8.41855233
S8 OL v3 v8-v13	1.70694067
S9 OL v14 v15 v18 & v20	8.38831881
S10 OL v36 v76	-7.73551194
S11 v46 v52	6.45445780
S12 v85 v90 v92	18.67063779
S13 v32 v35	17.98558765

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V25

V21	Store knowledge on customers	10.51569865
V24	Store knowledge on competitors' markets	0.49319490
V25	Store knowledge on employees skills	0.00000000
V27	Store knowledge on methods and processes	-12.67411864
V29	Intranet infrastructure implemented in organisation	-12.64837146
V41	Extranet support infrastructure implemented for KM	-7.95765196
V42	Strategy is important for KM initiative	5.83257089
V55	Willingness to share knowledge	1.67540204
V86	Process Adoption	20.67934627
V94	Satisfaction	6.32109556
S1	BI v63 & v64	-10.79626747
S2	BI v53 v54 & v58	6.96777824
S3	BI v68 & v71	7.28933651
S4	BI v43 & v44	-3.44890628
S5	AG v16 & v17	21.28781699
S6	AG v76 & v77	-3.91558298
S7	AG v81 & v82 & v84	2.52007004
S8	OL v3 v8-v13	-5.49188089
S9	OL v14 v15 v18 & v20	5.11849433
S10	OL v36 v76	-8.06486606
S11	v46 v52	3.82055914
S12	v85 v90 v92	-0.21171053
S13	v32 v35	3.44119990

V27

V21	Store knowledge on customers	9.44036859
V24	Store knowledge on competitors' markets	3.90396028
V25	Store knowledge on employees skills	-12.67411864
V27	Store knowledge on methods and processes	0.00000000
V29	Intranet infrastructure implemented in organisation	-0.43963694
V41	Extranet support infrastructure implemented for KM	4.87459629
V42	Strategy is important for KM initiative	5.20047162
V55	Willingness to share knowledge	0.58592058
V86	Process Adoption	7.24710520
V94	Satisfaction	-0.06404395
S1	BI v63 & v64	10.85749650
S2	BI v53 v54 & v58	7.37015964
S3	BI v68 & v71	8.03198839
S4	BI v43 & v44	8.34854424
S5	AG v16 & v17	10.66349183
S6	AG v76 & v77	-0.09068710
S7	AG v81 & v82 & v84	1.50462651
S8	OL v3 v8-v13	-0.73439645
S9	OL v14 v15 v18 & v20	0.15455261
S10	OL v36 v76	-0.62709432
S11	v46 v52	10.54273014
S12	v85 v90 v92	2.36894735
S13	v32 v35	1.99347419

V29

V21	Store knowledge on customers	-13.20040384
V24	Store knowledge on competitors' markets	11.47784800
V25	Store knowledge on employees skills	-12.64837146
V27	Store knowledge on methods and processes	-0.43963694
V29	Intranet infrastructure implemented in organisation	0.00000000
V41	Extranet support infrastructure implemented for KM	-1.82596448
V42	Strategy is important for KM initiative	2.85004868
V55	Willingness to share knowledge	-6.26980952
V86	Process Adoption	1.51316640
V94	Satisfaction	1.64284594
S1	BI v63 & v64	-8.56773747
S2	BI v53 v54 & v58	-1.93332676
S3	BI v68 & v71	8.52814547
S4	BI v43 & v44	-5.07640106
S5	AG v16 & v17	14.93056236
S6	AG v76 & v77	-5.78886761
S7	AG v81 & v82 & v84	-5.73194381
S8	OL v3 v8-v13	-6.09563567
S9	OL v14 v15 v18 & v20	-7.12007770
S10	OL v36 v76	-11.07353547
S11	v46 v52	4.76648811
S12	v85 v90 v92	10.89882188
S13	v32 v35	1.57082227

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V41

V21	Store knowledge on customers	-6.39965824
V24	Store knowledge on competitors' markets	-12.17588614
V25	Store knowledge on employees skills	-7.95765196
V27	Store knowledge on methods and processes	4.87459629
V29	Intranet infrastructure implemented in organisation	-1.82596448
V41	Extranet support infrastructure implemented for KM	0.00000000
V42	Strategy is important for KM initiative	2.30845756
V55	Willingness to share knowledge	4.19284649
V86	Process Adoption	-3.64212192
V94	Satisfaction	-11.15535610
S1	BI v63 & v64	4.39158138
S2	BI v53 v54 & v58	-2.34623602
S3	BI v68 & v71	-8.36811454
S4	BI v43 & v44	2.71458934
S5	AG v16 & v17	-0.65271363
S6	AG v76 & v77	2.45955680
S7	AG v81 & v82 & v84	-4.76473646
S8	OL v3 v8-v13	-2.05056839
S9	OL v14 v15 v18 & v20	-11.55642312
S10	OL v36 v76	2.99897326
S11	v46 v52	8.56474888
S12	v85 v90 v92	-13.84810094
S13	v32 v35	-5.68621338

V42

V21	Store knowledge on customers	7.88788294
V24	Store knowledge on competitors' markets	7.24798550
V25	Store knowledge on employees skills	5.83257089
V27	Store knowledge on methods and processes	5.20047162
V29	Intranet infrastructure implemented in organisation	2.85004868
V41	Extranet support infrastructure implemented for KM	2.30845756
V42	Strategy is important for KM initiative	0.00000000
V55	Willingness to share knowledge	-5.39657640
V86	Process Adoption	6.94269738
V94	Satisfaction	0.11402140
S1	BI v63 & v64	18.84155400
S2	BI v53 v54 & v58	7.21731346
S3	BI v68 & v71	8.15443507
S4	BI v43 & v44	22.64881119
S5	AG v16 & v17	15.25751668
S6	AG v76 & v77	-9.02242971
S7	AG v81 & v82 & v84	-4.34378630
S8	OL v3 v8-v13	-0.38269145
S9	OL v14 v15 v18 & v20	4.10424479
S10	OL v36 v76	-9.75141371
S11	v46 v52	8.64736977
S12	v85 v90 v92	-0.35478828
S13	v32 v35	2.94908187

V55

V21	Store knowledge on customers	-4.24428857
V24	Store knowledge on competitors' markets	-13.65410763
V25	Store knowledge on employees skills	1.67540204
V27	Store knowledge on methods and processes	0.58592058
V29	Intranet infrastructure implemented in organisation	-6.26980952
V41	Extranet support infrastructure implemented for KM	4.19284649
V42	Strategy is important for KM initiative	-5.39657640
V55	Willingness to share knowledge	0.00000000
V86	Process Adoption	6.37050344
V94	Satisfaction	-7.35143201
S1	BI v63 & v64	-1.56619870
S2	BI v53 v54 & v58	6.94788986
S3	BI v68 & v71	-1.10283116
S4	BI v43 & v44	-6.24539098
S5	AG v16 & v17	-2.11043492
S6	AG v76 & v77	6.84124803
S7	AG v81 & v82 & v84	-2.08894940
S8	OL v3 v8-v13	-3.69921525
S9	OL v14 v15 v18 & v20	-11.41497569
S10	OL v36 v76	11.15465604
S11	v46 v52	7.79577887
S12	v85 v90 v92	-12.74178327
S13	v32 v35	-3.46351420

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V86

V21	Store knowledge on customers	17.24639477
V24	Store knowledge on competitors' markets	9.06076059
V25	Store knowledge on employees skills	20.67934627
V27	Store knowledge on methods and processes	7.24710520
V29	Intranet infrastructure implemented in organisation	1.51316640
V41	Extranet support infrastructure implemented for KM	-3.64212192
V42	Strategy is important for KM initiative	6.94269738
V55	Willingness to share knowledge	6.37050344
V86	Process Adoption	0.00000000
V94	Satisfaction	24.70500278
S1	BI v63 & v64	-7.13942083
S2	BI v53 v54 & v58	11.71309754
S3	BI v68 & v71	10.82588015
S4	BI v43 & v44	-14.56687569
S5	AG v16 & v17	20.03874264
S6	AG v76 & v77	7.04362966
S7	AG v81 & v82 & v84	16.38987068
S8	OL v3 v8-v13	4.98837207
S9	OL v14 v15 v18 & v20	12.57979667
S10	OL v36 v76	14.87054146
S11	v46 v52	6.23291189
S12	v85 v90 v92	18.09382151
S13	v32 v35	17.44156383

V94

V21	Store knowledge on customers	1.19092313
V24	Store knowledge on competitors' markets	9.35360076
V25	Store knowledge on employees skills	6.32109556
V27	Store knowledge on methods and processes	-0.06404395
V29	Intranet infrastructure implemented in organisation	1.64284594
V41	Extranet support infrastructure implemented for KM	-11.15535610
V42	Strategy is important for KM initiative	0.11402140
V55	Willingness to share knowledge	-7.35143201
V86	Process Adoption	24.70500278
V94	Satisfaction	0.00000000
S1	BI v63 & v64	3.51041418
S2	BI v53 v54 & v58	13.66270797
S3	BI v68 & v71	7.33562267
S4	BI v43 & v44	0.79395813
S5	AG v16 & v17	13.20041565
S6	AG v76 & v77	-8.26425929
S7	AG v81 & v82 & v84	7.57915446
S8	OL v3 v8-v13	2.94376625
S9	OL v14 v15 v18 & v20	5.07835635
S10	OL v36 v76	-8.43089883
S11	v46 v52	-8.17203115
S12	v85 v90 v92	12.53904328
S13	v32 v35	2.90377033

S1

V21	Store knowledge on customers	-9.19916730
V24	Store knowledge on competitors' markets	-7.73968286
V25	Store knowledge on employees skills	-10.79626747
V27	Store knowledge on methods and processes	10.85749650
V29	Intranet infrastructure implemented in organisation	-8.56773747
V41	Extranet support infrastructure implemented for KM	4.39158138
V42	Strategy is important for KM initiative	18.84155400
V55	Willingness to share knowledge	-1.56619870
V86	Process Adoption	-7.13942083
V94	Satisfaction	3.51041418
S1	BI v63 & v64	0.00000000
S2	BI v53 v54 & v58	-0.44531122
S3	BI v68 & v71	-10.24158379
S4	BI v43 & v44	30.73427956
S5	AG v16 & v17	15.83197212
S6	AG v76 & v77	-15.01984819
S7	AG v81 & v82 & v84	2.68462920
S8	OL v3 v8-v13	-3.01124810
S9	OL v14 v15 v18 & v20	-15.32323724
S10	OL v36 v76	-8.88173584
S11	v46 v52	13.93287094
S12	v85 v90 v92	5.11881775
S13	v32 v35	-9.68942901

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S2

V21	Store knowledge on customers	2.44430869
V24	Store knowledge on competitors' markets	0.78552970
V25	Store knowledge on employees skills	6.96777824
V27	Store knowledge on methods and processes	7.37015964
V29	Intranet infrastructure implemented in organisation	-1.93332676
V41	Extranet support infrastructure implemented for KM	-2.34623602
V42	Strategy is important for KM initiative	7.21731346
V55	Willingness to share knowledge	6.94788986
V86	Process Adoption	11.71309754
V94	Satisfaction	13.66270797
S1	BI v63 & v64	-0.44531122
S2	BI v53 v54 & v58	0.00000000
S3	BI v68 & v71	2.73816435
S4	BI v43 & v44	-10.95555813
S5	AG v16 & v17	16.76612309
S6	AG v76 & v77	0.43754470
S7	AG v81 & v82 & v84	2.71971184
S8	OL v3 v8-v13	6.12044532
S9	OL v14 v15 v18 & v20	4.56417086
S10	OL v36 v76	3.00383988
S11	v46 v52	10.50481968
S12	v85 v90 v92	10.36609524
S13	v32 v35	9.28894643

S3

V21	Store knowledge on customers	4.72750677
V24	Store knowledge on competitors' markets	10.37017981
V25	Store knowledge on employees skills	7.28933651
V27	Store knowledge on methods and processes	8.03198839
V29	Intranet infrastructure implemented in organisation	8.52814547
V41	Extranet support infrastructure implemented for KM	-8.36811454
V42	Strategy is important for KM initiative	8.15443507
V55	Willingness to share knowledge	-1.10283116
V86	Process Adoption	10.82588015
V94	Satisfaction	7.33562267
S1	BI v63 & v64	-10.24158379
S2	BI v53 v54 & v58	2.73816435
S3	BI v68 & v71	0.00000000
S4	BI v43 & v44	0.27965700
S5	AG v16 & v17	17.18373397
S6	AG v76 & v77	-1.09820236
S7	AG v81 & v82 & v84	-2.31724206
S8	OL v3 v8-v13	-4.94130719
S9	OL v14 v15 v18 & v20	6.78498805
S10	OL v36 v76	7.45857533
S11	v46 v52	15.73218767
S12	v85 v90 v92	22.84644532
S13	v32 v35	19.89873688

S4

V21	Store knowledge on customers	-1.24830091
V24	Store knowledge on competitors' markets	-5.52543491
V25	Store knowledge on employees skills	-3.44890628
V27	Store knowledge on methods and processes	8.34854424
V29	Intranet infrastructure implemented in organisation	-5.07640106
V41	Extranet support infrastructure implemented for KM	2.71458934
V42	Strategy is important for KM initiative	22.64881119
V55	Willingness to share knowledge	-6.24539098
V86	Process Adoption	-14.56687569
V94	Satisfaction	0.79395813
S1	BI v63 & v64	30.73427956
S2	BI v53 v54 & v58	-10.95555813
S3	BI v68 & v71	0.27965700
S4	BI v43 & v44	0.00000000
S5	AG v16 & v17	16.76750521
S6	AG v76 & v77	-8.51016776
S7	AG v81 & v82 & v84	-2.17505969
S8	OL v3 v8-v13	-6.03046462
S9	OL v14 v15 v18 & v20	-8.12032912
S10	OL v36 v76	-4.13515684
S11	v46 v52	16.68127389
S12	v85 v90 v92	5.11009715
S13	v32 v35	-1.46588384

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S5

V21	Store knowledge on customers	22.22104693
V24	Store knowledge on competitors' markets	17.35035095
V25	Store knowledge on employees skills	21.28781699
V27	Store knowledge on methods and processes	10.66349183
V29	Intranet infrastructure implemented in organisation	14.93056236
V41	Extranet support infrastructure implemented for KM	-0.65271363
V42	Strategy is important for KM initiative	15.25751668
V55	Willingness to share knowledge	-2.11043492
V86	Process Adoption	20.03874264
V94	Satisfaction	13.20041565
S1	BI v63 & v64	15.83197212
S2	BI v53 v54 & v58	16.76612309
S3	BI v68 & v71	17.18373397
S4	BI v43 & v44	16.76750521
S5	AG v16 & v17	0.00000000
S6	AG v76 & v77	-6.20236692
S7	AG v81 & v82 & v84	-10.99877018
S8	OL v3 v8-v13	15.36192146
S9	OL v14 v15 v18 & v20	24.70232635
S10	OL v36 v76	21.37178335
S11	v46 v52	23.63489459
S12	v85 v90 v92	19.21429202
S13	v32 v35	28.89004458

S6

V21	Store knowledge on customers	-6.24126044
V24	Store knowledge on competitors' markets	-16.09376735
V25	Store knowledge on employees skills	-3.91558298
V27	Store knowledge on methods and processes	-0.09068710
V29	Intranet infrastructure implemented in organisation	-5.78886761
V41	Extranet support infrastructure implemented for KM	2.45955680
V42	Strategy is important for KM initiative	-9.02242971
V55	Willingness to share knowledge	6.84124803
V86	Process Adoption	7.04362966
V94	Satisfaction	-8.26425929
S1	BI v63 & v64	-15.01984819
S2	BI v53 v54 & v58	0.43754470
S3	BI v68 & v71	-1.09820236
S4	BI v43 & v44	-8.51016776
S5	AG v16 & v17	-6.20236692
S6	AG v76 & v77	0.00000000
S7	AG v81 & v82 & v84	5.55634884
S8	OL v3 v8-v13	-13.30491903
S9	OL v14 v15 v18 & v20	-15.12749281
S10	OL v36 v76	18.43376141
S11	v46 v52	0.29088123
S12	v85 v90 v92	-15.60599655
S13	v32 v35	-9.22432468

S7

V21	Store knowledge on customers	-0.06895138
V24	Store knowledge on competitors' markets	-8.41855233
V25	Store knowledge on employees skills	2.52007004
V27	Store knowledge on methods and processes	1.50462651
V29	Intranet infrastructure implemented in organisation	-5.73194381
V41	Extranet support infrastructure implemented for KM	-4.76473646
V42	Strategy is important for KM initiative	-4.34378630
V55	Willingness to share knowledge	-2.08894940
V86	Process Adoption	16.38987068
V94	Satisfaction	7.57915446
S1	BI v63 & v64	2.68462920
S2	BI v53 v54 & v58	2.71971184
S3	BI v68 & v71	-2.31724206
S4	BI v43 & v44	-2.17505969
S5	AG v16 & v17	-10.99877018
S6	AG v76 & v77	5.55634884
S7	AG v81 & v82 & v84	0.00000000
S8	OL v3 v8-v13	-0.51545331
S9	OL v14 v15 v18 & v20	-4.11689836
S10	OL v36 v76	12.43138637
S11	v46 v52	-3.02943772
S12	v85 v90 v92	-8.67875375
S13	v32 v35	-3.00465225

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S8

V21	Store knowledge on customers	-5.13946028
V24	Store knowledge on competitors' markets	1.70694067
V25	Store knowledge on employees skills	-5.49188089
V27	Store knowledge on methods and processes	-0.73439645
V29	Intranet infrastructure implemented in organisation	-6.09563567
V41	Extranet support infrastructure implemented for KM	-2.05056839
V42	Strategy is important for KM initiative	-0.38269145
V55	Willingness to share knowledge	-3.69921525
V86	Process Adoption	4.98837207
V94	Satisfaction	2.94376625
S1	BI v63 & v64	-3.01124810
S2	BI v53 v54 & v58	6.12044532
S3	BI v68 & v71	-4.94130719
S4	BI v43 & v44	-6.03046462
S5	AG v16 & v17	15.36192146
S6	AG v76 & v77	-13.30491903
S7	AG v81 & v82 & v84	-0.51545331
S8	OL v3 v8-v13	0.00000000
S9	OL v14 v15 v18 & v20	22.57340199
S10	OL v36 v76	-6.88755973
S11	v46 v52	1.88001222
S12	v85 v90 v92	-10.37232593
S13	v32 v35	-4.67601740

S9

V21	Store knowledge on customers	5.24179748
V24	Store knowledge on competitors' markets	8.38831881
V25	Store knowledge on employees skills	5.11849433
V27	Store knowledge on methods and processes	0.15455261
V29	Intranet infrastructure implemented in organisation	-7.12007770
V41	Extranet support infrastructure implemented for KM	-11.55642312
V42	Strategy is important for KM initiative	4.10424479
V55	Willingness to share knowledge	-11.41497569
V86	Process Adoption	12.57979667
V94	Satisfaction	5.07835635
S1	BI v63 & v64	-15.32323724
S2	BI v53 v54 & v58	4.56417086
S3	BI v68 & v71	6.78498805
S4	BI v43 & v44	-8.12032912
S5	AG v16 & v17	24.70232635
S6	AG v76 & v77	-15.12749281
S7	AG v81 & v82 & v84	-4.11689836
S8	OL v3 v8-v13	22.57340199
S9	OL v14 v15 v18 & v20	0.00000000
S10	OL v36 v76	-7.55860716
S11	v46 v52	2.97839368
S12	v85 v90 v92	-7.19320073
S13	v32 v35	0.98596362

S10

V21	Store knowledge on customers	-11.08124428
V24	Store knowledge on competitors' markets	-7.73551194
V25	Store knowledge on employees skills	-8.06486606
V27	Store knowledge on methods and processes	-0.62709432
V29	Intranet infrastructure implemented in organisation	-11.07353547
V41	Extranet support infrastructure implemented for KM	2.99897326
V42	Strategy is important for KM initiative	-9.75141371
V55	Willingness to share knowledge	11.15465604
V86	Process Adoption	14.87054146
V94	Satisfaction	-8.43089883
S1	BI v63 & v64	-8.88173584
S2	BI v53 v54 & v58	3.00383988
S3	BI v68 & v71	7.45857533
S4	BI v43 & v44	-4.13515684
S5	AG v16 & v17	21.37178335
S6	AG v76 & v77	18.43376141
S7	AG v81 & v82 & v84	12.43138637
S8	OL v3 v8-v13	-6.88755973
S9	OL v14 v15 v18 & v20	-7.55860716
S10	OL v36 v76	0.00000000
S11	v46 v52	2.84788731
S12	v85 v90 v92	-14.34418516
S13	v32 v35	-6.24092112

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S11

V21	Store knowledge on customers	3.92794590
V24	Store knowledge on competitors' markets	6.45445780
V25	Store knowledge on employees skills	3.82055914
V27	Store knowledge on methods and processes	10.54273014
V29	Intranet infrastructure implemented in organisation	4.76648811
V41	Extranet support infrastructure implemented for KM	8.56474888
V42	Strategy is important for KM initiative	8.64736977
V55	Willingness to share knowledge	7.79577887
V86	Process Adoption	6.23291189
V94	Satisfaction	-8.17203115
S1	BI v63 & v64	13.93287094
S2	BI v53 v54 & v58	10.50481968
S3	BI v68 & v71	15.73218767
S4	BI v43 & v44	16.68127389
S5	AG v16 & v17	23.63489459
S6	AG v76 & v77	0.29088123
S7	AG v81 & v82 & v84	-3.02943772
S8	OL v3 v8-v13	1.88001222
S9	OL v14 v15 v18 & v20	2.97839368
S10	OL v36 v76	2.84788731
S11	v46 v52	0.00000000
S12	v85 v90 v92	-1.35240232
S13	v32 v35	4.24861560

S12

V21	Store knowledge on customers	-4.25952947
V24	Store knowledge on competitors' markets	18.67063779
V25	Store knowledge on employees skills	-0.21171053
V27	Store knowledge on methods and processes	2.36894735
V29	Intranet infrastructure implemented in organisation	10.89882188
V41	Extranet support infrastructure implemented for KM	-13.84810094
V42	Strategy is important for KM initiative	-0.35478828
V55	Willingness to share knowledge	-12.74178327
V86	Process Adoption	18.09382151
V94	Satisfaction	12.53904328
S1	BI v63 & v64	5.11881775
S2	BI v53 v54 & v58	10.36609524
S3	BI v68 & v71	22.84644532
S4	BI v43 & v44	5.11009715
S5	AG v16 & v17	19.21429202
S6	AG v76 & v77	-15.60599655
S7	AG v81 & v82 & v84	-8.67875375
S8	OL v3 v8-v13	-10.37232593
S9	OL v14 v15 v18 & v20	-7.19320073
S10	OL v36 v76	-14.34418516
S11	v46 v52	-1.35240232
S12	v85 v90 v92	0.00000000
S13	v32 v35	2.10265133

S13

V21	Store knowledge on customers	-13.41851388
V24	Store knowledge on competitors' markets	17.98558765
V25	Store knowledge on employees skills	3.44119990
V27	Store knowledge on methods and processes	1.99347419
V29	Intranet infrastructure implemented in organisation	1.57082227
V41	Extranet support infrastructure implemented for KM	-5.68621338
V42	Strategy is important for KM initiative	2.94908187
V55	Willingness to share knowledge	-3.46351420
V86	Process Adoption	17.44156383
V94	Satisfaction	2.90377033
S1	BI v63 & v64	-9.68942901
S2	BI v53 v54 & v58	9.28894643
S3	BI v68 & v71	19.89873688
S4	BI v43 & v44	-1.46588384
S5	AG v16 & v17	28.89004458
S6	AG v76 & v77	-9.22432468
S7	AG v81 & v82 & v84	-3.00465225
S8	OL v3 v8-v13	-4.67601740
S9	OL v14 v15 v18 & v20	0.98596362
S10	OL v36 v76	-6.24092112
S11	v46 v52	4.24861560
S12	v85 v90 v92	2.10265133
S13	v32 v35	0.00000000

Average Standardized Residual	7.311870
Average Off-diagonal Standardized Residual	7.976586

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G6.4 Rank Order Matrix

Rank Order of the 10 Largest Asymptotically Standardized Residuals

Row	Column	Residual
S4	S1	30.73428
S13	S5	28.89004
V94	V86	24.70500
S9	S5	24.70233
S11	S5	23.63489
S12	S3	22.84645
S4	V42	22.64881
S9	S8	22.57340
S5	V21	22.22105
S10	S5	21.37178

G6.5 Distribution of Asymptotically Standardised Residuals

Each * Represents 2 Residuals

-----Range-----	Freq	Percent	
-16.85810 -15.92154	1	0.36	
-15.92154 -14.98498	4	1.45	**
-14.98498 -14.04841	2	0.72	*
-14.04841 -13.11185	5	1.81	**
-13.11185 -12.17529	4	1.45	**
-12.17529 -11.23873	2	0.72	*
-11.23873 -10.30217	7	2.54	***
-10.30217 -9.36561	3	1.09	*
-9.36561 -8.42905	8	2.90	****
-8.42905 -7.49249	10	3.62	*****
-7.49249 -6.55593	5	1.81	**
-6.55593 -5.61937	12	4.35	*****
-5.61937 -4.68280	7	2.54	***
-4.68280 -3.74624	7	2.54	***
-3.74624 -2.80968	7	2.54	***
-2.80968 -1.87312	7	2.54	***
-1.87312 -0.93656	7	2.54	***
-0.93656 0	12	4.35	*****
0 0.93656	32	11.59	*****
0.93656 1.87312	8	2.90	****
1.87312 2.80968	12	4.35	*****
2.80968 3.74624	10	3.62	*****
3.74624 4.68280	8	2.90	****
4.68280 5.61937	11	3.99	*****
5.61937 6.55593	6	2.17	***
6.55593 7.49249	13	4.71	*****
7.49249 8.42905	7	2.54	***
8.42905 9.36561	6	2.17	***
9.36561 10.30217	1	0.36	
10.30217 11.23873	10	3.62	*****
11.23873 12.17529	2	0.72	*
12.17529 13.11185	3	1.09	*
13.11185 14.04841	3	1.09	*
14.04841 14.98498	2	0.72	*
14.98498 15.92154	4	1.45	**
15.92154 16.85810	4	1.45	**
16.85810 17.79466	4	1.45	**
17.79466 18.73122	4	1.45	**
18.73122 19.66778	2	0.72	*
19.66778 20.60434	2	0.72	*
20.60434 21.54090	3	1.09	*
21.54090 22.47746	1	0.36	
22.47746 23.41402	3	1.09	*
23.41402 24.35058	1	0.36	
24.35058 25.28715	2	0.72	*
25.28715 26.22371	0	0.00	
26.22371 27.16027	0	0.00	
27.16027 28.09683	0	0.00	
28.09683 29.03339	1	0.36	
29.03339 29.96995	0	0.00	
29.96995 30.90651	1	0.36	

G7 Estimation Results

G7.1 Manifest Variable Equations

V21	=	0.9718*F3	+	1.0000	E21
Std Err		0.0202 LV21F3			
t Value		48.1932			
V24	=	0.6824*F3	+	1.0000	E24
Std Err		0.0217 LV24F3			
t Value		31.4957			
V25	=	0.9669*F3	+	1.0000	E25
Std Err		0.0201 LV25F3			
t Value		48.0280			
V27	=	0.3762*F3	+	1.0000	E27
Std Err		0.0155 LV27F3			
t Value		24.2132			
V29	=	0.3884*F5	+	1.0000	E29
Std Err		0.0135 LV29F5			
t Value		28.7680			
V41	=	0.6496*F2	+	1.0000	E41
Std Err		0.0236 LV41F2			
t Value		27.4704			
V42	=	0.5696*F4	+	1.0000	E42
Std Err		0.0208 LV42F4			
t Value		27.3700			
V55	=	0.5361*F2	+	1.0000	E55
Std Err		0.0135 LV55F2			
t Value		39.8134			
V86	=	0.5205*F1	+	1.0000	E86
Std Err		0.0153 L86F1			
t Value		34.0546			
V94	=	0.3478*F4	+	1.0000	E94
Std Err		0.0109 LV94F4			
t Value		31.9623			
S1	=	0.5675*F1	+	1.0000	E1
Std Err		0.0122 LS1F1			
t Value		46.5183			
S2	=	0.4995*F1	+	1.0000	E2
Std Err		0.0152 LS2F1			
t Value		32.8426			
S3	=	0.3790*F1	+	1.0000	E3
Std Err		0.0149 LS3F1			
t Value		25.4134			
S4	=	0.5731*F1	+	1.0000	E4
Std Err		0.0128 LS4F1			
t Value		44.7397			
S5	=	0.4193*F2	+	1.0000	E5
Std Err		0.0161 LS5F2			
t Value		25.9739			
S6	=	0.5211*F2	+	1.0000	E6
Std Err		0.0129 LS6F2			
t Value		40.4918			
S7	=	0.4333*F2	+	1.0000	E7
Std Err		0.0120 LS7F2			
t Value		36.0638			
S8	=	0.4137*F4	+	1.0000	E8
Std Err		0.0144 LS8F4			
t Value		28.7150			
S9	=	0.6306*F4	+	1.0000	E9
Std Err		0.0150 LS9F4			
t Value		41.9785			
S10	=	0.5409*F4	+	1.0000	E10
Std Err		0.0137 LS10F4			
t Value		39.4845			
S11	=	0.4556*F5	+	1.0000	E11
Std Err		0.0141 LS11F5			
t Value		32.2372			
S12	=	0.4053*F5	+	1.0000	E12
Std Err		0.0113 LS12F5			
t Value		35.8260			
S13	=	0.5934*F5	+	1.0000	E13
Std Err		0.0118 LS13F5			
t Value		50.2179			

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G7.2 Variances of Exogenous Variables

Variable	Parameter	Estimate	Standard Error	t Value
F1		1.00000		
F2		1.00000		
F3		1.00000		
F4		1.00000		
F5		1.00000		
E1	VARE1	0.01853	0.00182	10.20
E2	VARE2	0.15314	0.00653	23.47
E3	VARE3	0.19420	0.00803	24.17
E4	VARE4	0.03383	0.00221	15.34
E86	VARE86	0.14542	0.00625	23.28
E5	VARE5	0.21523	0.00921	23.37
E6	VARE6	0.05939	0.00353	16.81
E7	VARE7	0.07584	0.00370	20.50
E41	VARE41	0.44034	0.01904	23.13
E55	VARE55	0.06993	0.00397	17.60
E21	VARE21	0.02274	0.00306	7.44
E24	VARE24	0.33751	0.01388	24.32
E25	VARE25	0.02591	0.00307	8.43
E27	VARE27	0.22193	0.00904	24.55
E8	VARE8	0.16137	0.00682	23.66
E9	VARE9	0.07223	0.00390	18.51
E10	VARE10	0.07891	0.00381	20.73
E42	VARE42	0.35251	0.01481	23.80
E94	VARE94	0.08076	0.00348	23.20
E11	VARE11	0.14094	0.00568	24.80
E12	VARE12	0.07385	0.00305	24.25
E13	VARE13	-0.00841	0.00196	-4.28
E29	VARE29	0.14909	0.00597	24.98

G7.3 Covariance among Exogenous Variables

Variable	Parameter	Estimate	Standard Error	t Value	
F1	F2	CF1F2	0.60322	0.01977	30.51
F1	F3	CF1F3	0.73468	0.01381	53.20
F2	F3	CF2F3	0.53152	0.02180	24.39
F1	F4	CF1F4	0.73011	0.01500	48.68
F2	F4	CF2F4	0.81107	0.01221	66.44
F3	F4	CF3F4	0.82303	0.01061	77.57
F1	F5	CF1F5	0.64710	0.01684	38.44
F2	F5	CF2F5	0.57153	0.02004	28.51
F3	F5	CF3F5	0.76858	0.01180	65.11
F4	F5	CF4F5	0.86668	0.00847	102.30

Appendix G

G8 Standardised and Supplementary Results

G8.1 Manifest Variable Equations with Standardized Estimates

V21	=	0.9882*F3	+	0.1533	E21
		LV21F3			
V24	=	0.7614*F3	+	0.6482	E24
		LV24F3			
V25	=	0.9864*F3	+	0.1642	E25
		LV25F3			
V27	=	0.6240*F3	+	0.7814	E27
		LV27F3			
V29	=	0.7092*F5	+	0.7050	E29
		LV29F5			
V41	=	0.6995*F2	+	0.7146	E41
		LV41F2			
V42	=	0.6923*F4	+	0.7216	E42
		LV42F4			
V55	=	0.8968*F2	+	0.4424	E55
		LV55F2			
V86	=	0.8067*F1	+	0.5910	E86
		L86F1			
V94	=	0.7744*F4	+	0.6327	E94
		LV94F4			
S1	=	0.9724*F1	+	0.2333	E1
		LS1F1			
S2	=	0.7872*F1	+	0.6167	E2
		LS2F1			
S3	=	0.6521*F1	+	0.7582	E3
		LS3F1			
S4	=	0.9522*F1	+	0.3056	E4
		LS4F1			
S5	=	0.6706*F2	+	0.7419	E5
		LS5F2			
S6	=	0.9058*F2	+	0.4236	E6
		LS6F2			
S7	=	0.8440*F2	+	0.5364	E7
		LS7F2			
S8	=	0.7174*F4	+	0.6966	E8
		LS8F4			
S9	=	0.9199*F4	+	0.3921	E9
		LS9F4			
S10	=	0.8875*F4	+	0.4609	E10
		LS10F4			
S11	=	0.7717*F5	+	0.6359	E11
		LS11F5			
S12	=	0.8306*F5	+	0.5569	E12
		LS12F5			
S13	=	1.0122*F5	+	1.0000	E13
		LS13F5			

G8.2 Squared Multiple Correlations

	Variable	Error Variance	Total Variance	R-Square
1	V21	0.02274	0.96715	0.9765
2	V24	0.33751	0.80319	0.5798
3	V25	0.02591	0.96081	0.9730
4	V27	0.22193	0.36343	0.3893
5	V29	0.14909	0.29994	0.5030
6	V41	0.44034	0.86228	0.4893
7	V42	0.35251	0.67694	0.4793
8	V55	0.06993	0.35735	0.8043
9	V86	0.14542	0.41631	0.6507
10	V94	0.08076	0.20175	0.5997
11	S1	0.01853	0.34059	0.9456
12	S2	0.15314	0.40263	0.6196
13	S3	0.19420	0.33786	0.4252
14	S4	0.03383	0.36229	0.9066
15	S5	0.21523	0.39107	0.4497
16	S6	0.05939	0.33096	0.8206
17	S7	0.07584	0.26359	0.7123
18	S8	0.16137	0.33252	0.5147
19	S9	0.07223	0.46990	0.8463
20	S10	0.07891	0.37148	0.7876
21	S11	0.14094	0.34850	0.5956
22	S12	0.07385	0.23812	0.6899
23	S13	-0.00841	0.34367	1.0245

G8.3 Exogenous Variable Correlations

Correlations Among Exogenous Variables

Var1	Var2	Parameter	Estimate
F1	F2	CF1F2	0.60322
F1	F3	CF1F3	0.73468
F2	F3	CF2F3	0.53152
F1	F4	CF1F4	0.73011
F2	F4	CF2F4	0.81107
F3	F4	CF3F4	0.82303
F1	F5	CF1F5	0.64710
F2	F5	CF2F5	0.57153
F3	F5	CF3F5	0.76858
F4	F5	CF4F5	0.86668

Appendix G

G9 Modification Indices

G9.1 Lagrange Multiplier and Wald Test Indices PHI

Symmetric Matrix: Univariate Tests for Constant Constraints

Lagrange Multiplier or Wald Index / Probability / Approx Change of Value							
	F1	F2	F3	F4	F5	E1	E2
F1	.	930.5590	2829.8570	2369.5041	1477.2534	194.3707	56.0827
	:	:	:	:	:	0.0000	0.0000
	:	:	:	:	:	0.0773	-0.0726
	Sing	[CF1F2]	[CF1F3]	[CF1F4]	[CF1F5]		
F2	930.5590	.	594.6735	4414.2407	813.0999	4.6366	2.2868
	:	:	:	:	:	0.0313	0.1305
	:	:	:	:	:	0.0082	0.0112
	[CF1F2]	Sing	[CF2F3]	[CF2F4]	[CF2F5]		
F3	2829.8570	594.6735	.	6017.8193	4238.8700	5.4447	0.7624
	:	:	:	:	:	0.0196	0.3826
	:	:	:	:	:	-0.0075	-0.0054
	[CF1F3]	[CF2F3]	Sing	[CF3F4]	[CF3F5]		
F4	2369.5041	4414.2407	6017.8193	.	10466.237	11.8846	2.3094
	:	:	:	:	:	0.0006	0.1286
	:	:	:	:	:	-0.0079	0.0069
	[CF1F4]	[CF2F4]	[CF3F4]	Sing	[CF4F5]		
F5	1477.2534	813.0999	4238.8700	10466.237	.	29.3995	19.4443
	:	:	:	:	:	0.0000	0.0000
	:	:	:	:	:	-0.0155	0.0248
	[CF1F5]	[CF2F5]	[CF3F5]	[CF4F5]	Sing		
E1	194.3707	4.6366	5.4447	11.8846	29.3995	103.9651	0.2220
	0.0000	0.0313	0.0196	0.0006	0.0000	.	0.6375
	0.0773	0.0082	-0.0075	-0.0079	-0.0155	.	-0.0013
						[VARE1]	
E2	56.0827	2.2868	0.7624	2.3094	19.4443	0.2220	550.7898
	0.0000	0.1305	0.3826	0.1286	0.0000	0.6375	.
	-0.0726	0.0112	-0.0054	0.0069	0.0248	-0.0013	.
							[VARE2]
E3	58.5343	5.7777	14.5661	17.7140	339.5019	105.5401	7.4812
	0.0000	0.0162	0.0001	0.0000	0.0000	0.0000	0.0062
	-0.0820	-0.0197	-0.0259	-0.0212	0.1148	-0.0279	0.0140
E4	21.7947	20.7996	0.7771	9.1562	15.4583	913.4304	120.7299
	0.0000	0.0000	0.3780	0.0025	0.0001	0.0000	0.0000
	0.0273	-0.0187	-0.0030	0.0076	-0.0122	0.0965	-0.0313
	E3	E4	E86	E5	E6	E7	E41
F1	58.5343	21.7947	501.2791	23.2379	85.3278	8.8983	72.5246
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0029	0.0000
	-0.0820	0.0273	-0.2126	0.0435	-0.0531	0.0173	0.1107
F2	5.7777	20.7996	20.2211	550.2739	113.1443	50.7051	8.0587
	0.0162	0.0000	0.0000	0.0000	0.0000	0.0000	0.0045
	-0.0197	-0.0187	0.0326	-0.2493	0.0784	-0.0501	0.0435
F3	14.5661	0.7771	94.4991	1.0092	14.0209	2.4478	44.1316
	0.0001	0.3780	0.0000	0.3151	0.0002	0.1177	0.0000
	-0.0259	-0.0030	0.0583	-0.0073	0.0174	-0.0073	-0.0699
F4	17.7140	9.1562	6.7730	50.4967	9.5896	63.7162	4.9917
	0.0000	0.0025	0.0093	0.0000	0.0020	0.0000	0.0255
	-0.0212	0.0076	0.0115	0.0388	-0.0113	0.0284	-0.0176
F5	339.5019	15.4583	9.5786	112.1834	2.4714	49.6921	0.0567
	0.0000	0.0001	0.0020	0.0000	0.1159	0.0000	0.8118
	0.1148	-0.0122	0.0170	0.0710	-0.0067	-0.0302	-0.0023
E1	105.5401	913.4304	52.2719	46.2152	269.8132	49.5677	243.4925
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	-0.0279	0.0965	-0.0196	-0.0181	-0.0266	0.0118	0.0597
E2	7.4812	120.7299	136.9480	17.1774	0.6227	22.0068	107.9515
	0.0062	0.0000	0.0000	0.0000	0.4300	0.0000	0.0000
	0.0140	-0.0313	0.0532	0.0226	0.0026	-0.0161	-0.0815

Appendix G

E3	584.3143	0.0626	116.9723	146.4249	23.9025	33.9184	183.8785
	.	0.8025	0.0000	0.0000	0.0000	0.0000	0.0000
	.	0.0007	0.0543	0.0734	0.0180	-0.0222	-0.1182
	[VARE3]						
E4	0.0626	235.3884	214.2730	5.1207	71.7835	83.9618	37.2632
	0.8025	.	0.0000	0.0236	0.0000	0.0000	0.0000
	0.0007	.	-0.0417	0.0067	0.0153	-0.0171	0.0260
		[VARE4]					
	E55	E21	E24	E25	E27	E8	E9
F1	0.1588	3.0222	7.1828	9.0584	111.6458	0.0049	99.6312
	0.6903	0.0821	0.0074	0.0026	0.0000	0.9444	0.0000
	-0.0024	0.0076	-0.0296	-0.0131	0.0941	0.0005	-0.0671
F2	50.2922	13.5335	333.6148	71.6803	0.2847	126.3743	181.6556
	0.0000	0.0002	0.0000	0.0000	0.5936	0.0000	0.0000
	0.0547	-0.0150	-0.1970	0.0345	0.0046	-0.0899	-0.1017
F3	3.1280	55.8430	144.5707	1.9558	29.0405	50.9422	26.9651
	0.0770	0.0000	0.0000	0.1620	0.0000	0.0000	0.0000
	0.0087	0.0428	-0.1251	-0.0080	-0.0452	-0.0461	0.0294
F4	40.2803	25.5654	48.4060	42.5166	6.0930	247.9048	199.9484
	0.0000	0.0000	0.0000	0.0000	0.0136	0.0000	0.0000
	-0.0243	0.0130	0.0460	-0.0168	-0.0132	0.0811	0.0858
F5	4.6572	122.7810	211.9977	49.3581	1.0441	49.6113	12.7526
	0.0309	0.0000	0.0000	0.0000	0.3069	0.0000	0.0004
	0.0097	-0.0345	0.1192	0.0219	0.0068	-0.0425	-0.0200
E1	62.1075	43.6953	32.9193	64.0253	117.4068	67.1819	66.5435
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0136	0.0079	-0.0188	-0.0096	0.0286	0.0188	-0.0140
E2	63.5240	179.7654	2.8253	166.3670	0.8673	35.3517	3.0116
	0.0000	0.0000	0.0928	0.0000	0.3517	0.0000	0.0827
	0.0281	-0.0327	0.0113	0.0316	-0.0050	0.0280	0.0060
E3	1.2075	100.1390	151.5155	27.1024	0.6311	138.2974	4.4541
	0.2718	0.0000	0.0000	0.0000	0.4270	0.0000	0.0348
	-0.0043	-0.0271	0.0918	0.0142	0.0048	-0.0614	0.0081
E4	92.1272	51.6748	4.0803	47.4335	1.2047	39.7233	5.9954
	0.0000	0.0000	0.0434	0.0000	0.2724	0.0000	0.0143
	-0.0184	0.0096	-0.0074	-0.0092	-0.0032	-0.0161	0.0046
	E10	E42	E94	E11	E12	E13	E29
F1	19.5989	369.9543	36.5707	214.0111	230.0701	329.5692	0.1324
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.7160
	-0.0278	0.2232	0.0344	0.1015	0.0754	-0.0882	0.0026
F2	832.6508	39.5476	19.3975	11.9546	182.2046	57.8985	0.8900
	0.0000	0.0000	0.0000	0.0005	0.0000	0.0000	0.3455
	0.1979	-0.0736	-0.0257	0.0235	-0.0661	0.0366	-0.0066
F3	0.0731	2.7926	0.0086	3.2122	32.2738	80.5114	84.2230
	0.7868	0.0947	0.9263	0.0731	0.0000	0.0000	0.0000
	-0.0014	-0.0158	0.0004	-0.0101	-0.0232	0.0362	-0.0536
F4	499.5771	15.5030	0.5415	19.8060	0.0450	14.0493	3.1676
	0.0000	0.0001	0.4618	0.0000	0.8320	0.0002	0.0751
	-0.1142	-0.0296	-0.0028	-0.0195	-0.0007	0.0129	-0.0079
F5	80.3610	1.1299	0.0044	13.7992	15.5491	76.2630	122.2343
	0.0000	0.2878	0.9469	0.0002	0.0001	0.0000	0.0000
	0.0459	-0.0094	0.0003	-0.0260	0.0212	-0.0670	0.0766
E1	30.3101	104.0550	0.0616	81.1959	10.2609	59.8334	4.0420
	0.0000	0.0000	0.8040	0.0000	0.0014	0.0000	0.0444
	-0.0094	0.0345	0.0004	0.0185	0.0047	-0.0080	-0.0043
E2	9.9132	134.8267	82.5117	31.5555	0.5874	31.5412	11.7118
	0.0016	0.0000	0.0000	0.0000	0.4434	0.0000	0.0006
	-0.0110	-0.0805	0.0305	-0.0237	0.0023	0.0117	-0.0149
E3	5.4557	42.1520	1.0939	19.6396	94.9152	67.4525	1.9033
	0.0195	0.0000	0.2956	0.0000	0.0000	0.0000	0.1677
	0.0090	-0.0500	-0.0039	-0.0207	0.0327	0.0191	0.0067
E4	4.6097	307.7609	93.9285	170.9273	1.3217	74.1934	28.8680
	0.0318	0.0000	0.0000	0.0000	0.2503	0.0000	0.0000
	0.0041	0.0661	-0.0177	0.0299	-0.0019	-0.0098	0.0127

Appendix G

	F1	F2	F3	F4	F5	E1	E2
E86	501.2791 0.0000 -0.2126	20.2211 0.0000 0.0326	94.4991 0.0000 0.0583	6.7730 0.0093 0.0115	9.5786 0.0020 0.0170	52.2719 0.0000 -0.0196	136.9480 0.0000 0.0532
E5	23.2379 0.0000 0.0435	550.2739 0.0000 -0.2493	1.0092 0.3151 -0.0073	50.4967 0.0000 0.0388	112.1834 0.0000 0.0710	46.2152 0.0000 -0.0181	17.1774 0.0000 0.0226
E6	85.3278 0.0000 -0.0531	113.1443 0.0000 0.0784	14.0209 0.0002 0.0174	9.5896 0.0020 -0.0113	2.4714 0.1159 -0.0067	269.8132 0.0000 -0.0266	0.6227 0.4300 0.0026
E7	8.8983 0.0029 0.0173	50.7051 0.0000 -0.0501	2.4478 0.1177 -0.0073	63.7162 0.0000 0.0284	49.6921 0.0000 -0.0302	49.5677 0.0000 0.0118	22.0068 0.0000 -0.0161
E41	72.5246 0.0000 0.1107	8.0587 0.0045 0.0435	44.1316 0.0000 -0.0699	4.9917 0.0255 -0.0176	0.0567 0.8118 -0.0023	243.4925 0.0000 0.0597	107.9515 0.0000 -0.0815
E55	0.1588 0.6903 -0.0024	50.2922 0.0000 0.0547	3.1280 0.0770 0.0087	40.2803 0.0000 -0.0243	4.6572 0.0309 0.0097	62.1075 0.0000 0.0136	63.5240 0.0000 0.0281
E21	3.0222 0.0821 0.0076	13.5335 0.0002 -0.0150	55.8430 0.0000 0.0428	25.5654 0.0000 0.0130	122.7810 0.0000 -0.0345	43.6953 0.0000 0.0079	179.7654 0.0000 -0.0327
E24	7.1828 0.0074 -0.0296	333.6148 0.0000 -0.1970	144.5707 0.0000 -0.1251	48.4060 0.0000 0.0460	211.9977 0.0000 0.1192	32.9193 0.0000 -0.0188	2.8253 0.0928 0.0113
E25	9.0584 0.0026 -0.0131	71.6803 0.0000 0.0345	1.9558 0.1620 -0.0080	42.5166 0.0000 -0.0168	49.3581 0.0000 0.0219	64.0253 0.0000 -0.0096	166.3670 0.0000 0.0316
	E3	E4	E86	E5	E6	E7	E41
E86	116.9723 0.0000 0.0543	214.2730 0.0000 -0.0417	541.9364 . . [VARE86]	17.8337 0.0000 0.0226	26.6641 0.0000 0.0167	202.5268 0.0000 0.0478	329.1975 0.0000 -0.1393
E5	146.4249 0.0000 0.0734	5.1207 0.0236 0.0067	17.8337 0.0000 0.0226	546.1241 . . [VARE5]	38.7196 0.0000 -0.0262	121.1761 0.0000 -0.0463	0.4422 0.5061 -0.0063
E6	23.9025 0.0000 0.0180	71.7835 0.0000 0.0153	26.6641 0.0000 0.0167	38.7196 0.0000 -0.0262	282.7369 . . [VARE6]	30.7769 0.0000 0.0169	5.9286 0.0149 0.0148
E7	33.9184 0.0000 -0.0222	83.9618 0.0000 -0.0171	202.5268 0.0000 0.0478	121.1761 0.0000 -0.0463	30.7769 0.0000 0.0169	420.3082 . . [VARE7]	22.8148 0.0000 -0.0290
E41	183.8785 0.0000 -0.1182	37.2632 0.0000 0.0260	329.1975 0.0000 -0.1393	0.4422 0.5061 -0.0063	5.9286 0.0149 0.0148	22.8148 0.0000 -0.0290	534.9943 . . [VARE41]
E55	1.2075 0.2718 -0.0043	92.1272 0.0000 -0.0184	29.1742 0.0000 -0.0186	4.5356 0.0332 -0.0095	46.3061 0.0000 0.0245	4.4028 0.0359 -0.0067	17.3834 0.0000 0.0268
E21	100.1390 0.0000 -0.0271	51.6748 0.0000 0.0096	60.0657 0.0000 -0.0185	17.7869 0.0000 0.0122	13.9564 0.0002 0.0066	9.6081 0.0019 -0.0057	55.4095 0.0000 0.0310
E24	151.5155 0.0000 0.0918	4.0803 0.0434 -0.0074	16.2952 0.0001 0.0265	232.5818 0.0000 0.1216	134.4409 0.0000 -0.0561	2.0902 0.1482 -0.0073	11.1275 0.0009 -0.0382
E25	27.1024 0.0000 0.0142	47.4335 0.0000 -0.0092	153.7231 0.0000 0.0297	70.1465 0.0000 -0.0244	0.9011 0.3425 0.0017	9.4114 0.0022 0.0056	124.3574 0.0000 -0.0467

Appendix G

	E55	E21	E24	E25	E27	E8	E9
E86	29.1742 0.0000 -0.0186	60.0657 0.0000 -0.0185	16.2952 0.0001 0.0265	153.7231 0.0000 0.0297	82.8403 0.0000 -0.0483	11.5266 0.0007 -0.0156	0.0223 0.8812 0.0005
E5	4.5356 0.0332 -0.0095	17.7869 0.0000 0.0122	232.5818 0.0000 0.1216	70.1465 0.0000 -0.0244	1.6120 0.2042 -0.0082	27.0151 0.0000 0.0291	98.6249 0.0000 0.0412
E6	46.3061 0.0000 0.0245	13.9564 0.0002 0.0066	134.4409 0.0000 -0.0561	0.9011 0.3425 0.0017	1.9515 0.1624 -0.0055	242.9269 0.0000 -0.0532	39.5522 0.0000 -0.0163
E7	4.4028 0.0359 -0.0067	9.6081 0.0019 -0.0057	2.0902 0.1482 -0.0073	9.4114 0.0022 0.0056	1.3125 0.2519 -0.0046	3.5863 0.0583 0.0067	0.1328 0.7156 -0.0010
E41	17.3834 0.0000 0.0268	55.4095 0.0000 0.0310	11.1275 0.0009 -0.0382	124.3574 0.0000 -0.0467	100.8505 0.0000 0.0929	11.9555 0.0005 0.0278	32.6529 0.0000 -0.0341
E55	309.7233 . . [VARE55]	113.0246 0.0000 -0.0199	79.8757 0.0000 -0.0460	198.1368 0.0000 0.0265	3.8052 0.0511 -0.0081	0.2451 0.6205 0.0018	18.8289 0.0000 -0.0119
E21	113.0246 0.0000 -0.0199	55.3260 . . [VARE21]	41.0386 0.0000 -0.0272	187.1857 0.0000 0.1522	89.4356 0.0000 0.0294	2.7313 0.0984 0.0041	53.5948 0.0000 0.0138
E24	79.8757 0.0000 -0.0460	41.0386 0.0000 -0.0272	591.4778 . . [VARE24]	0.3073 0.5793 0.0024	15.2594 0.0001 0.0309	14.6106 0.0001 0.0263	81.4695 0.0000 0.0458
E25	198.1368 0.0000 0.0265	187.1857 0.0000 0.1522	0.3073 0.5793 0.0024	71.1102 . . [VARE25]	160.1383 0.0000 -0.0393	31.3146 0.0000 -0.0141	52.5648 0.0000 -0.0137
	E10	E42	E94	E11	E12	E13	E29
E86	20.9519 0.0000 0.0156	417.0623 0.0000 -0.1385	306.2668 0.0000 0.0575	434.4542 0.0000 -0.0859	31.2206 0.0000 0.0165	69.5022 0.0000 0.0170	12.2959 0.0005 -0.0150
E5	58.6777 0.0000 -0.0318	36.6027 0.0000 0.0499	0.0170 0.8962 -0.0005	26.8833 0.0000 0.0259	71.3451 0.0000 0.0303	0.0946 0.7584 -0.0008	9.1220 0.0025 0.0156
E6	389.0773 0.0000 0.0507	55.4134 0.0000 -0.0374	26.9470 0.0000 -0.0127	27.5005 0.0000 -0.0159	49.4170 0.0000 -0.0153	17.3750 0.0000 0.0064	1.0418 0.3074 0.0032
E7	6.0281 0.0141 0.0065	14.0770 0.0002 -0.0195	212.8954 0.0000 0.0368	159.3402 0.0000 -0.0397	1.6594 0.1977 0.0029	0.5608 0.4539 0.0012	7.6748 0.0056 -0.0090
E41	5.5637 0.0183 0.0141	80.1161 0.0000 0.1060	68.8237 0.0000 -0.0476	193.2888 0.0000 0.1000	58.7390 0.0000 -0.0395	12.5047 0.0004 -0.0126	29.6355 0.0000 0.0405
E55	2.6881 0.1011 0.0045	6.2429 0.0125 -0.0133	33.8437 0.0000 -0.0151	76.6918 0.0000 0.0283	33.5146 0.0000 -0.0134	4.0865 0.0432 0.0033	16.6429 0.0000 -0.0136
E21	0.1819 0.6697 0.0008	39.7694 0.0000 0.0233	91.5956 0.0000 -0.0171	35.1027 0.0000 0.0133	40.0005 0.0000 -0.0101	34.4341 0.0000 -0.0067	0.3124 0.5762 -0.0013
E24	106.3273 0.0000 -0.0524	11.0438 0.0009 0.0336	74.4056 0.0000 0.0423	55.3347 0.0000 -0.0458	162.6419 0.0000 0.0562	2.6667 0.1025 0.0050	189.1690 0.0000 0.0876
E25	3.6364 0.0565 0.0036	69.3149 0.0000 -0.0308	63.1770 0.0000 0.0143	44.9500 0.0000 -0.0151	0.0793 0.7783 0.0005	84.9532 0.0000 0.0105	57.6625 0.0000 -0.0177
	F1	F2	F3	F4	F5	E1	E2
E27	111.6458 0.0000 0.0941	0.2847 0.5936 0.0046	29.0405 0.0000 -0.0452	6.0930 0.0136 -0.0132	1.0441 0.3069 0.0068	117.4068 0.0000 0.0286	0.8673 0.3517 -0.0050

Appendix G

E8	0.0049 0.9444 0.0005	126.3743 0.0000 -0.0899	50.9422 0.0000 -0.0461	247.9048 0.0000 0.0811	49.6113 0.0000 -0.0425	67.1819 0.0000 0.0188	35.3517 0.0000 0.0280
E9	99.6312 0.0000 -0.0671	181.6556 0.0000 -0.1017	26.9651 0.0000 0.0294	199.9484 0.0000 0.0858	12.7526 0.0004 -0.0200	66.5435 0.0000 -0.0140	3.0116 0.0827 0.0060
E10	19.5989 0.0000 -0.0278	832.6508 0.0000 0.1979	0.0731 0.7868 -0.0014	499.5771 0.0000 -0.1142	80.3610 0.0000 0.0459	30.3101 0.0000 -0.0094	9.9132 0.0016 -0.0110
E42	369.9543 0.0000 0.2232	39.5476 0.0000 -0.0736	2.7926 0.0947 -0.0158	15.5030 0.0001 -0.0296	1.1299 0.2878 -0.0094	104.0550 0.0000 0.0345	134.8267 0.0000 -0.0805
E94	36.5707 0.0000 0.0344	19.3975 0.0000 -0.0257	0.0086 0.9263 0.0004	0.5415 0.4618 -0.0028	0.0044 0.9469 0.0003	0.0616 0.8040 0.0004	82.5117 0.0000 0.0305
E11	214.0111 0.0000 0.1015	11.9546 0.0005 0.0235	3.2122 0.0731 -0.0101	19.8060 0.0000 -0.0195	13.7992 0.0002 -0.0260	81.1959 0.0000 0.0185	31.5555 0.0000 -0.0237
E12	230.0701 0.0000 0.0754	182.2046 0.0000 -0.0661	32.2738 0.0000 -0.0232	0.0450 0.8320 -0.0007	15.5491 0.0001 0.0212	10.2609 0.0014 0.0047	0.5874 0.4434 0.0023
E13	329.5692 0.0000 -0.0882	57.8985 0.0000 0.0366	80.5114 0.0000 0.0362	14.0493 0.0002 0.0129	76.2630 0.0000 -0.0670	59.8334 0.0000 -0.0080	31.5412 0.0000 0.0117
	E3	E4	E86	E5	E6	E7	E41
E27	0.6311 0.4270 0.0048	1.2047 0.2724 -0.0032	82.8403 0.0000 -0.0483	1.6120 0.2042 -0.0082	1.9515 0.1624 -0.0055	1.3125 0.2519 -0.0046	100.8505 0.0000 0.0929
E8	138.2974 0.0000 -0.0614	39.7233 0.0000 -0.0161	11.5266 0.0007 -0.0156	27.0151 0.0000 0.0291	242.9269 0.0000 -0.0532	3.5863 0.0583 0.0067	11.9555 0.0005 0.0278
E9	4.4541 0.0348 0.0081	5.9954 0.0143 0.0046	0.0223 0.8812 0.0005	98.6249 0.0000 0.0412	39.5522 0.0000 -0.0163	0.1328 0.7156 -0.0010	32.6529 0.0000 -0.0341
E10	5.4557 0.0195 0.0090	4.6097 0.0318 0.0041	20.9519 0.0000 0.0156	58.6777 0.0000 -0.0318	389.0773 0.0000 0.0507	6.0281 0.0141 0.0065	5.5637 0.0183 0.0141
E42	42.1520 0.0000 -0.0500	307.7609 0.0000 0.0661	417.0623 0.0000 -0.1385	36.6027 0.0000 0.0499	55.4134 0.0000 -0.0374	14.0770 0.0002 -0.0195	80.1161 0.0000 0.1060
E94	1.0939 0.2956 -0.0039	93.9285 0.0000 -0.0177	306.2668 0.0000 0.0575	0.0170 0.8962 -0.0005	26.9470 0.0000 -0.0127	212.8954 0.0000 0.0368	68.8237 0.0000 -0.0476
E11	19.6396 0.0000 -0.0207	170.9273 0.0000 0.0299	434.4542 0.0000 -0.0859	26.8833 0.0000 0.0259	27.5005 0.0000 -0.0159	159.3402 0.0000 -0.0397	193.2888 0.0000 0.1000
E12	94.9152 0.0000 0.0327	1.3217 0.2503 -0.0019	31.2206 0.0000 0.0165	71.3451 0.0000 0.0303	49.4170 0.0000 -0.0153	1.6594 0.1977 0.0029	58.7390 0.0000 -0.0395
E13	67.4525 0.0000 0.0191	74.1934 0.0000 -0.0098	69.5022 0.0000 0.0170	0.0946 0.7584 -0.0008	17.3750 0.0000 0.0064	0.5608 0.4539 0.0012	12.5047 0.0004 -0.0126
	E55	E21	E24	E25	E27	E8	E9
E27	3.8052 0.0511 -0.0081	89.4356 0.0000 0.0294	15.2594 0.0001 0.0309	160.1383 0.0000 -0.0393	602.5179 . . [VARE27]	0.1521 0.6965 0.0022	15.3763 0.0001 -0.0161
E8	0.2451 0.6205 0.0018	2.7313 0.0984 0.0041	14.6106 0.0001 0.0263	31.3146 0.0000 -0.0141	0.1521 0.6965 0.0022	559.6419 . . [VARE8]	508.8558 0.0000 0.0842
E9	18.8289 0.0000 -0.0119	53.5948 0.0000 0.0138	81.4695 0.0000 0.0458	52.5648 0.0000 -0.0137	15.3763 0.0001 -0.0161	508.8558 0.0000 0.0842	342.6017 . . [VARE9]

Appendix G

E10	2.6881 0.1011 0.0045	0.1819 0.6697 0.0008	106.3273 0.0000 -0.0524	3.6364 0.0565 0.0036	1.9689 0.1606 0.0058	47.5593 0.0000 -0.0252	57.3302 0.0000 -0.0249
E42	6.2429 0.0125 -0.0133	39.7694 0.0000 0.0233	11.0438 0.0009 0.0336	69.3149 0.0000 -0.0308	5.9653 0.0146 0.0200	0.1513 0.6973 -0.0028	16.7551 0.0000 0.0224
E94	33.8437 0.0000 -0.0151	91.5956 0.0000 -0.0171	74.4056 0.0000 0.0423	63.1770 0.0000 0.0143	7.6997 0.0055 -0.0110	8.6184 0.0033 0.0102	25.6438 0.0000 0.0138
E11	76.6918 0.0000 0.0283	35.1027 0.0000 0.0133	55.3347 0.0000 -0.0458	44.9500 0.0000 -0.0151	117.6188 0.0000 0.0539	5.1372 0.0234 0.0098	4.2292 0.0397 -0.0066
E12	33.5146 0.0000 -0.0134	40.0005 0.0000 -0.0101	162.6419 0.0000 0.0562	0.0793 0.7783 0.0005	7.8562 0.0051 0.0100	31.8582 0.0000 -0.0175	2.0894 0.1483 -0.0034
E13	4.0865 0.0432 0.0033	34.4341 0.0000 -0.0067	2.6667 0.1025 0.0050	84.9532 0.0000 0.0105	39.6908 0.0000 -0.0155	4.4970 0.0340 -0.0047	0.2369 0.6264 0.0009
	E10	E42	E94	E11	E12	E13	E29
E27	1.9689 0.1606 0.0058	5.9653 0.0146 0.0200	7.6997 0.0055 -0.0110	117.6188 0.0000 0.0539	7.8562 0.0051 0.0100	39.6908 0.0000 -0.0155	22.6181 0.0000 0.0245
E8	47.5593 0.0000 -0.0252	0.1513 0.6973 -0.0028	8.6184 0.0033 0.0102	5.1372 0.0234 0.0098	31.8582 0.0000 -0.0175	4.4970 0.0340 -0.0047	1.1783 0.2777 -0.0049
E9	57.3302 0.0000 -0.0249	16.7551 0.0000 0.0224	25.6438 0.0000 0.0138	4.2292 0.0397 -0.0066	2.0894 0.1483 -0.0034	0.2369 0.6264 0.0009	4.7536 0.0292 -0.0073
E10	429.9198 . . [VARE10]	95.1968 0.0000 -0.0524	71.1991 0.0000 -0.0223	0.8445 0.3581 0.0030	111.2566 0.0000 -0.0244	159.0698 0.0000 0.0220	48.6869 0.0000 -0.0232
E42	95.1968 0.0000 -0.0524	566.5542 . . [VARE42]	0.0117 0.9139 0.0006	51.9150 0.0000 0.0458	6.4088 0.0114 0.0115	45.8434 0.0000 -0.0219	42.3369 0.0000 0.0428
E94	71.1991 0.0000 -0.0223	0.0117 0.9139 0.0006	538.1111 0.0000 . [VARE94]	209.5653 0.0000 -0.0447	421.9341 0.0000 0.0455	40.3211 0.0000 -0.0101	39.7022 0.0000 0.0201
E11	0.8445 0.3581 0.0030	51.9150 0.0000 0.0458	209.5653 0.0000 -0.0447	615.2329 . . [VARE11]	1.8003 0.1797 -0.0042	19.5381 0.0000 -0.0146	22.8476 0.0000 0.0202
E12	111.2566 0.0000 -0.0244	6.4088 0.0114 0.0115	421.9341 0.0000 0.0455	1.8003 0.1797 -0.0042	588.0825 . . [VARE12]	4.8702 0.0273 -0.0066	119.0159 0.0000 0.0338
E13	159.0698 0.0000 0.0220	45.8434 0.0000 -0.0219	40.3211 0.0000 -0.0101	19.5381 0.0000 -0.0146	4.8702 0.0273 -0.0066	18.3227 . . [VARE13]	2.9557 0.0856 -0.0050
	F1	F2	F3	F4	F5	E1	E2
E29	0.1324 0.7160 0.0026	0.8900 0.3455 -0.0066	84.2230 0.0000 -0.0536	3.1676 0.0751 -0.0079	122.2343 0.0000 0.0766	4.0420 0.0444 -0.0043	11.7118 0.0006 -0.0149
	E3	E4	E86	E5	E6	E7	E41
E29	1.9033 0.1677 0.0067	28.8680 0.0000 0.0127	12.2959 0.0005 -0.0150	9.1220 0.0025 0.0156	1.0418 0.3074 0.0032	7.6748 0.0056 -0.0090	29.6355 0.0000 0.0405
	E55	E21	E24	E25	E27	E8	E9
E29	16.6429 0.0000 -0.0136	0.3124 0.5762 -0.0013	189.1690 0.0000 0.0876	57.6625 0.0000 -0.0177	22.6181 0.0000 0.0245	1.1783 0.2777 -0.0049	4.7536 0.0292 -0.0073
	E10	E42	E94	E11	E12	E13	E29
E29	48.6869 0.0000 -0.0232	42.3369 0.0000 0.0428	39.7022 0.0000 0.0201	22.8476 0.0000 0.0202	119.0159 0.0000 0.0338	2.9557 0.0856 -0.0050	623.8679 . . [VARE29]

Appendix G

G9.2 PHI: Rank Order

Rank Order of the 10 Largest Lagrange Multipliers in *_PHI_*

Row	Column	Chi-Square	Pr > ChiSq
E4	E1	913.43040	<.0001
E10	F2	832.65083	<.0001
E5	F2	550.27390	<.0001
E9	E8	508.85578	<.0001
E86	F1	501.27908	<.0001
E10	F4	499.57705	<.0001
E11	E86	434.45423	<.0001
E12	E94	421.93415	<.0001
E42	E86	417.06232	<.0001
E10	E6	389.07732	<.0001

G9.3 Lagrange Multiplier and Wald Indices *_GAMMA_*

General Matrix: Univariate Tests for Constant Constraints

Lagrange Multiplier or Wald Index / Probability / Approx Change of Value

	F1	F2	F3	F4	F5
V21	0.3584 0.5494 -0.0065	11.0584 0.0009 -0.0271	2322.5887 . . [LV21F3]	49.3693 0.0000 -0.1017	155.5071 0.0000 -0.1402
V24	24.7060 0.0000 -0.1278	146.8262 0.0000 -0.2517	991.9763 . . [LV24F3]	8.7391 0.0031 0.0940	299.7096 0.0000 0.4418
V25	0.0087 0.9256 -0.0009	38.5835 0.0000 0.0506	2306.6889 . . [LV25F3]	33.1159 0.0000 0.0832	46.9494 0.0000 0.0769
V27	113.7258 0.0000 0.2212	6.2147 0.0127 0.0418	586.2780 . . [LV27F3]	2.2653 0.1323 0.0385	1.6729 0.1959 0.0266
V29	43.2989 0.0000 -0.0978	24.3072 0.0000 -0.0695	157.5185 0.0000 -0.2230	89.0625 0.0000 -0.2342	827.6006 . . [LV29F5]
V41	4.2403 0.0395 0.0532	754.6238 . . [LV41F2]	52.8496 0.0000 -0.1736	53.7341 0.0000 -0.2735	29.3637 0.0000 -0.1297
V42	413.8272 0.0000 0.5571	17.7542 0.0000 -0.1414	58.7148 0.0000 0.2536	749.1163 . . [LV42F4]	4.0144 0.0451 0.0731
V55	3.2495 0.0714 -0.0221	1585.1103 . . [LV55F2]	4.8445 0.0277 -0.0247	20.0634 0.0000 -0.0806	4.9782 0.0257 -0.0251
V86	1159.7132 . . [L86F1]	165.9052 0.0000 0.1933	380.0113 0.0000 0.3350	439.7960 0.0000 0.3692	279.5664 0.0000 0.2438
V94	43.6356 0.0000 0.0889	17.0865 0.0000 -0.0682	16.9060 0.0000 0.0670	1021.5884 . . [LV94F4]	4.6640 0.0308 0.0389
S1	2163.9568 . . [LS1F1]	23.8368 0.0000 -0.0395	153.2952 0.0000 -0.1204	210.0631 0.0000 -0.1450	206.4896 0.0000 -0.1143

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S2	1078.6355 . . [LS2F1]	34.6570 0.0000 0.0903	23.9383 0.0000 0.0860	81.1548 0.0000 0.1621	75.6641 0.0000 0.1296
S3	645.8423 . . [LS3F1]	0.0307 0.8608 -0.0030	44.3693 0.0000 0.1294	101.1885 0.0000 0.2001	373.8455 0.0000 0.3191
S4	2001.6370 . . [LS4F1]	19.6887 0.0000 -0.0388	6.1605 0.0131 -0.0259	19.8960 0.0000 -0.0477	20.9410 0.0000 -0.0392
S5	373.4692 0.0000 0.3476 [LS5F2]	674.6423 . . [LS5F2]	514.2362 0.0000 0.3760	896.7992 0.0000 0.7746	786.1622 0.0000 0.4660
S6	136.6790 0.0000 -0.1359 [LS6F2]	1639.5852 . . [LS6F2]	39.8939 0.0000 -0.0673	76.7224 0.0000 -0.1499	56.5053 0.0000 -0.0803
S7	7.2432 0.0071 0.0313 [LS7F2]	1300.5990 . . [LS7F2]	0.8769 0.3490 0.0100	2.6656 0.1025 0.0276	4.7152 0.0299 -0.0232
S8	10.7329 0.0011 -0.0612	16.3558 0.0001 -0.0924	26.4841 0.0000 -0.1162	824.5486 . . [LS8F4]	17.1652 0.0000 -0.1034
	F1	F2	F3	F4	F5
S9	92.4382 0.0000 -0.1544	170.4113 0.0000 -0.2553	35.7015 0.0000 0.1168	1762.1906 . . [LS9F4]	5.4820 0.0192 0.0516
S10	15.6165 0.0001 -0.0591	486.2436 0.0000 0.4023	113.9250 0.0000 -0.1944	1559.0277 . . [LS10F4]	7.0364 0.0080 -0.0543
S11	254.0101 0.0000 0.2316	44.2456 0.0000 0.0915	20.5174 0.0000 0.0796	28.2502 0.0000 0.1319	1039.2342 . . [LS11F5]
S12	69.3425 0.0000 0.0881	167.1775 0.0000 -0.1291	2.0934 0.1479 -0.0188	121.4494 0.0000 -0.2060	1283.5021 . . [LS12F5]
S13	142.5716 0.0000 -0.1307	57.2392 0.0000 0.0773	24.1766 0.0000 0.0712	123.4494 0.0000 0.2542	2521.8404 . . [LS13F5]

G9.4 GAMMA: Rank Order

Rank Order of the 10 Largest Lagrange Multipliers in _GAMMA_

Row	Column	Chi-Square	Pr > ChiSq
S5	F4	896.79920	<.0001
S5	F5	786.16221	<.0001
S5	F3	514.23618	<.0001
S10	F2	486.24360	<.0001
V86	F4	439.79597	<.0001
V42	F1	413.82718	<.0001
V86	F3	380.01134	<.0001
S3	F5	373.84550	<.0001
S5	F1	373.46919	<.0001
V24	F5	299.70963	<.0001

Appendix H

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The CALIS Procedure
 Covariance Structure Analysis: Pattern and Initial Values

LINEQS Model Statement

	Matrix	Rows	Columns	-----Matrix Type-----	
Term 1	1 _SEL_	11	29	SELECTION	
	2 _BETA_	29	29	EQSBETA	IMINUSINV
	3 _GAMMA_	29	16	EQSGAMMA	
	4 _PHI_	16	16	SYMMETRIC	

The 13 Endogenous Variables

Manifest	S2	S4	S6	S7	S8	S9	S13	V21	V27	V29	V55
Latent	F1	F2									

The 16 Exogenous Variables

Manifest											
Latent	F3	F4	F5								
Error	E2	E4	E6	E7	E55	E21	E27	E8	E9	E13	E29
	D1	D2									

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The CALIS Procedure
 Covariance Structure Analysis: Pattern and Initial Values

Manifest Variable Equations with Initial Estimates

S2	=	. *F1	+	1.0000	E2
		LS2F1			
S4	=	1.0000 F1	+	1.0000	E4
S6	=	1.0000 F2	+	1.0000	E6
S7	=	. *F2	+	1.0000	E7
		LS7F2			
S8	=	. *F4	+	1.0000	E8
		LS8F4			
S9	=	1.0000 F4	+	1.0000	E9
S13	=	1.0000 F5	+	1.0000	E13
V21	=	1.0000 F3	+	1.0000	E21
V27	=	. *F3	+	1.0000	E27
		LV27F3			
V29	=	. *F5	+	1.0000	E29
		LV29F5			
V55	=	. *F2	+	1.0000	E55
		LV55F2			

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The CALIS Procedure

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Covariance Structure Analysis: Pattern and Initial Values

Latent Variable Equations with Initial Estimates

```

F1      =      .*F2      +      .*F3      +      .*F5      + 1.0000 D1
           PF1F2      +      PF1F3      +      PF1F5
F2      =      .*F3      +      .*F4      +      .*F5      + 1.0000 D2
           PF2F3      +      PF2F4      +      PF2F5
  
```

Variances of Exogenous Variables

Variable	Parameter	Estimate
F3	VARF3	.
F4	VARF4	.
F5	VARF5	.
E2	VARE2	.
E4	VARE4	.
E6	VARE6	.
E7	VARE7	.
E55	VARE55	.
E21	VARE21	.
E27	VARE27	.
E8	VARE8	.
E9	VARE9	.
E13	VARE13	.
E29	VARE29	.
D1	VARD1	.
D2	VARD2	.

Covariances Among Exogenous Variables

Var1	Var2	Parameter	Estimate
F3	F4	CF3F4	.
F3	F5	CF3F5	.
F4	F5	CF4F5	.

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The CALIS Procedure

Covariance Structure Analysis: Maximum Likelihood Estimation

Observations	1225	Model Terms	1
Variables	11	Model Matrices	4
Informations	66	Parameters	31

Variable	Mean	Std Dev
S2 BI v53 v54 & v58	0	0.63453
S4 BI v43 & v44	0	0.60200
S6 AG v76 & v77	0	0.57532
S7 AG v81 & v82 & v84	0	0.51341
S8 OL v3 v8-v13	0	0.57668
S9 OL v14 v15 v18 & v20	0	0.68552
S13 v32 v35	0	0.58620
V21 Store knowledge on customers	0	0.98338
V27 Store knowledge on methods and processes	0	0.60284
V29 Intranet infrastructure implemented in organisation	0	0.54765
V55 Willingness to share knowledge	0	0.59782

Covariances

S2

S2 BI v53 v54 & v58

0.4026283209

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S4	BI v43 & v44	0.2699578950
S6	AG v76 & v77	0.1594864515
S7	AG v81 & v82 & v84	0.1456275146
S8	OL v3 v8-v13	0.1907727884
S9	OL v14 v15 v18 & v20	0.2563876832
S13	v32 v35	0.2360504786
V21	Store knowledge on customers	0.3743717473
V27	Store knowledge on methods and processes	0.1929354705
V29	Intranet infrastructure implemented in organisation	0.1123642396
V55	Willingness to share knowledge	0.2029213176

Covariances

S4

S2	BI v53 v54 & v58	0.2699578950
S4	BI v43 & v44	0.3624040000
S6	AG v76 & v77	0.1526297380
S7	AG v81 & v82 & v84	0.1416975251
S8	OL v3 v8-v13	0.1440754360
S9	OL v14 v15 v18 & v20	0.2389352265
S13	v32 v35	0.2173181978
V21	Store knowledge on customers	0.4055637702
V27	Store knowledge on methods and processes	0.2070218270
V29	Intranet infrastructure implemented in organisation	0.1167613458
V55	Willingness to share knowledge	0.1633422032

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The CALIS Procedure

Covariance Structure Analysis: Maximum Likelihood Estimation

Covariances

S6

S2	BI v53 v54 & v58	0.1594864515
S4	BI v43 & v44	0.1526297380
S6	AG v76 & v77	0.3309931024
S7	AG v81 & v82 & v84	0.2325221862
S8	OL v3 v8-v13	0.1166522790
S9	OL v14 v15 v18 & v20	0.2218817640
S13	v32 v35	0.1527012250
V21	Store knowledge on customers	0.2395929323
V27	Store knowledge on methods and processes	0.1035622164
V29	Intranet infrastructure implemented in organisation	0.0825745934
V55	Willingness to share knowledge	0.2858432682

Covariances

S7

S2	BI v53 v54 & v58	0.1456275146
S4	BI v43 & v44	0.1416975251
S6	AG v76 & v77	0.2325221862
S7	AG v81 & v82 & v84	0.2635898281
S8	OL v3 v8-v13	0.1431336659
S9	OL v14 v15 v18 & v20	0.2077331148
S13	v32 v35	0.1370064496
V21	Store knowledge on customers	0.2234131769
V27	Store knowledge on methods and processes	0.0964693281
V29	Intranet infrastructure implemented in organisation	0.0649865878
V55	Willingness to share knowledge	0.2294523119

Covariances

S8

S2	BI v53 v54 & v58	0.1907727884
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S4	BI v43 & v44	0.1440754360
S6	AG v76 & v77	0.1166522790
S7	AG v81 & v82 & v84	0.1431336659
S8	OL v3 v8-v13	0.3325598224
S9	OL v14 v15 v18 & v20	0.3184664561
S13	v32 v35	0.1994122060
V21	Store knowledge on customers	0.2998744709
V27	Store knowledge on methods and processes	0.1232160907
V29	Intranet infrastructure implemented in organisation	0.1068193934
V55	Willingness to share knowledge	0.1627534229

Covariances

S9

S2	BI v53 v54 & v58	0.2563876832
S4	BI v43 & v44	0.2389352265

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The CALIS Procedure

Covariance Structure Analysis: Maximum Likelihood Estimation

Covariances

S9

S6	AG v76 & v77	0.2218817640
S7	AG v81 & v82 & v84	0.2077331148
S8	OL v3 v8-v13	0.3184664561
S9	OL v14 v15 v18 & v20	0.4699376704
S13	v32 v35	0.3257330515
V21	Store knowledge on customers	0.5213695570
V27	Store knowledge on methods and processes	0.1961739888
V29	Intranet infrastructure implemented in organisation	0.1797497492
V55	Willingness to share knowledge	0.2376204214

Covariances

S13

S2	BI v53 v54 & v58	0.2360504786
S4	BI v43 & v44	0.2173181978
S6	AG v76 & v77	0.1527012250
S7	AG v81 & v82 & v84	0.1370064496
S8	OL v3 v8-v13	0.1994122060
S9	OL v14 v15 v18 & v20	0.3257330515
S13	v32 v35	0.3436304400
V21	Store knowledge on customers	0.4294319074
V27	Store knowledge on methods and processes	0.1813076096
V29	Intranet infrastructure implemented in organisation	0.2310085160
V55	Willingness to share knowledge	0.1717516654

Covariances

V21

S2	BI v53 v54 & v58	0.3743717473
S4	BI v43 & v44	0.4055637702
S6	AG v76 & v77	0.2395929323
S7	AG v81 & v82 & v84	0.2234131769
S8	OL v3 v8-v13	0.2998744709
S9	OL v14 v15 v18 & v20	0.5213695570
S13	v32 v35	0.4294319074
V21	Store knowledge on customers	0.9670362244
V27	Store knowledge on methods and processes	0.3780951775
V29	Intranet infrastructure implemented in organisation	0.1978033159
V55	Willingness to share knowledge	0.2545950242

Covariances

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		V27
S2	BI v53 v54 & v58	0.1929354705
S4	BI v43 & v44	0.2070218270
S6	AG v76 & v77	0.1035622164
S7	AG v81 & v82 & v84	0.0964693281

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The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Covariances

		V27
S8	OL v3 v8-v13	0.1232160907
S9	OL v14 v15 v18 & v20	0.1961739888
S13	v32 v35	0.1813076096
V21	Store knowledge on customers	0.3780951775
V27	Store knowledge on methods and processes	0.3634160656
V29	Intranet infrastructure implemented in organisation	0.1093507349
V55	Willingness to share knowledge	0.1114685679

Covariances

		V29
S2	BI v53 v54 & v58	0.1123642396
S4	BI v43 & v44	0.1167613458
S6	AG v76 & v77	0.0825745934
S7	AG v81 & v82 & v84	0.0649865878
S8	OL v3 v8-v13	0.1068193934
S9	OL v14 v15 v18 & v20	0.1797497492
S13	v32 v35	0.2310085160
V21	Store knowledge on customers	0.1978033159
V27	Store knowledge on methods and processes	0.1093507349
V29	Intranet infrastructure implemented in organisation	0.2999205225
V55	Willingness to share knowledge	0.0813710324

Covariances

		V55
S2	BI v53 v54 & v58	0.2029213176
S4	BI v43 & v44	0.1633422032
S6	AG v76 & v77	0.2858432682
S7	AG v81 & v82 & v84	0.2294523119
S8	OL v3 v8-v13	0.1627534229
S9	OL v14 v15 v18 & v20	0.2376204214
S13	v32 v35	0.1717516654
V21	Store knowledge on customers	0.2545950242
V27	Store knowledge on methods and processes	0.1114685679
V29	Intranet infrastructure implemented in organisation	0.0813710324
V55	Willingness to share knowledge	0.3573887524

Determinant 2.1916975E-9 Ln -19.938589

NOTE: Some initial estimates computed by instrumental variable method.

NOTE: Some initial estimates computed by two-stage LS method.

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The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Appendix H

Vector of Initial Estimates

	Parameter	Estimate	Type
1	LS2F1	1.08230	Matrix Entry: _BETA_ [1:12]
2	LS7F2	0.89907	Matrix Entry: _BETA_ [4:13]
3	LV55F2	1.11381	Matrix Entry: _BETA_ [11:13]
4	PF1F2	0.02101	Matrix Entry: _BETA_ [12:13]
5	LS8F4	0.67597	Matrix Entry: _GAMMA_ [5:2]
6	LV27F3	0.47781	Matrix Entry: _GAMMA_ [9:1]
7	LV29F5	0.52376	Matrix Entry: _GAMMA_ [10:3]
8	PF1F3	0.41624	Matrix Entry: _GAMMA_ [12:1]
9	PF1F5	0.10692	Matrix Entry: _GAMMA_ [12:3]
10	PF2F3	0.04096	Matrix Entry: _GAMMA_ [13:1]
11	PF2F4	0.41414	Matrix Entry: _GAMMA_ [13:2]
12	PF2F5	0.00623	Matrix Entry: _GAMMA_ [13:3]
13	VARF3	0.79130	Matrix Entry: _PHI_ [1:1]
14	CF3F4	0.47923	Matrix Entry: _PHI_ [2:1]
15	VARF4	0.47056	Matrix Entry: _PHI_ [2:2]
16	CF3F5	0.41337	Matrix Entry: _PHI_ [3:1]
17	CF4F5	0.31913	Matrix Entry: _PHI_ [3:2]
18	VARF5	0.38106	Matrix Entry: _PHI_ [3:3]
19	VARE2	0.11045	Matrix Entry: _PHI_ [4:4]
20	VARE4	0.11298	Matrix Entry: _PHI_ [5:5]
21	VARE6	0.08287	Matrix Entry: _PHI_ [6:6]
22	VARE7	0.06302	Matrix Entry: _PHI_ [7:7]
23	VARE55	0.04957	Matrix Entry: _PHI_ [8:8]
24	VARE21	0.17574	Matrix Entry: _PHI_ [9:9]
25	VARE27	0.18276	Matrix Entry: _PHI_ [10:10]
26	VARE8	0.11754	Matrix Entry: _PHI_ [11:11]
27	VARE9	0.01000	Matrix Entry: _PHI_ [12:12]
28	VARE13	0.01000	Matrix Entry: _PHI_ [13:13]
29	VARE29	0.19538	Matrix Entry: _PHI_ [14:14]
30	VARD1	0.06481	Matrix Entry: _PHI_ [15:15]
31	VARD2	0.14796	Matrix Entry: _PHI_ [16:16]

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The CALIS Procedure

Covariance Structure Analysis: Maximum Likelihood Estimation

Levenberg-Marquardt Optimization

Scaling Update of More (1978)

Parameter Estimates 31
 Functions (Observations) 66

Optimization Start

Active Constraints 0 Objective Function 1.1231998222
 Max Abs Gradient Element 4.2929758836 Radius 65.956609932

Iter	Rest arts	Func Calls	Act Con	Objective Function	Obj Fun Change	Max Abs Gradient Element	Lambda	Actual Over Pred Change
1	0	2	0	0.54905	0.5741	0.8518	0	1.388
2	0	3	0	0.51944	0.0296	0.4574	0	1.165
3	0	4	0	0.51677	0.00268	0.1024	0	1.186
4	0	5	0	0.51647	0.000300	0.0475	0	1.155
5	0	6	0	0.51643	0.000036	0.00804	0	1.143
6	0	7	0	0.51643	4.66E-6	0.00600	0	1.117
7	0	8	0	0.51643	6.23E-7	0.000951	0	1.092
8	0	9	0	0.51643	8.509E-8	0.000826	0	1.064
9	0	10	0	0.51643	1.174E-8	0.000136	0	1.035
10	0	11	0	0.51643	1.631E-9	0.000117	0	1.006

Appendix H

Optimization Results

Iterations	10	Function Calls	12
Jacobian Calls	11	Active Constraints	0
Objective Function	0.5164270065	Max Abs Gradient Element	0.000117367
Lambda	0	Actual Over Pred Change	1.0055069125
Radius	0.0003829304		

GCONV convergence criterion satisfied.

Predicted Model Matrix

		S2
S2	BI v53 v54 & v58	0.4026283208
S4	BI v43 & v44	0.2699578949
S6	AG v76 & v77	0.1691783811
S7	AG v81 & v82 & v84	0.1385525209
S8	OL v3 v8-v13	0.1541236032
S9	OL v14 v15 v18 & v20	0.2567703888
S13	v32 v35	0.2328579834
V21	Store knowledge on customers	0.3982998364
V27	Store knowledge on methods and processes	0.1593212425
V29	Intranet infrastructure implemented in organisation	0.1204515417
V55	Willingness to share knowledge	0.1699541470

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Covariance Structure Analysis: Maximum Likelihood Estimation

Predicted Model Matrix

		S4
S2	BI v53 v54 & v58	0.2699578949
S4	BI v43 & v44	0.3624040000
S6	AG v76 & v77	0.1647293271
S7	AG v81 & v82 & v84	0.1349088659
S8	OL v3 v8-v13	0.1500704599
S9	OL v14 v15 v18 & v20	0.2500178397
S13	v32 v35	0.2267342828
V21	Store knowledge on customers	0.3878253451
V27	Store knowledge on methods and processes	0.1551314115
V29	Intranet infrastructure implemented in organisation	0.1172839064
V55	Willingness to share knowledge	0.1654846919

Predicted Model Matrix

		S6
S2	BI v53 v54 & v58	0.1691783811
S4	BI v43 & v44	0.1647293271
S6	AG v76 & v77	0.3309931024
S7	AG v81 & v82 & v84	0.2319978609
S8	OL v3 v8-v13	0.1390519978
S9	OL v14 v15 v18 & v20	0.2316610486
S13	v32 v35	0.1620395721
V21	Store knowledge on customers	0.2512412715
V27	Store knowledge on methods and processes	0.1004973336
V29	Intranet infrastructure implemented in organisation	0.0838189698
V55	Willingness to share knowledge	0.2845779947

Predicted Model Matrix

		S7
S2	BI v53 v54 & v58	0.1385525209
S4	BI v43 & v44	0.1349088659
S6	AG v76 & v77	0.2319978609

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S7	AG v81 & v82 & v84	0.2635898281
S8	OL v3 v8-v13	0.1138798273
S9	OL v14 v15 v18 & v20	0.1897241365
S13	v32 v35	0.1327060292
V21	Store knowledge on customers	0.2057598098
V27	Store knowledge on methods and processes	0.0823045996
V29	Intranet infrastructure implemented in organisation	0.0686454704
V55	Willingness to share knowledge	0.2330616849

Predicted Model Matrix

S8

S2	BI v53 v54 & v58	0.1541236032
S4	BI v43 & v44	0.1500704599

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Covariance Structure Analysis: Maximum Likelihood Estimation

Predicted Model Matrix

S8

S6	AG v76 & v77	0.1390519978
S7	AG v81 & v82 & v84	0.1138798273
S8	OL v3 v8-v13	0.3325598224
S9	OL v14 v15 v18 & v20	0.3184664561
S13	v32 v35	0.1931991599
V21	Store knowledge on customers	0.3147146529
V27	Store knowledge on methods and processes	0.1258868946
V29	Intranet infrastructure implemented in organisation	0.0999370360
V55	Willingness to share knowledge	0.1396896194

Predicted Model Matrix

S9

S2	BI v53 v54 & v58	0.2567703888
S4	BI v43 & v44	0.2500178397
S6	AG v76 & v77	0.2316610486
S7	AG v81 & v82 & v84	0.1897241365
S8	OL v3 v8-v13	0.3184664561
S9	OL v14 v15 v18 & v20	0.4699376704
S13	v32 v35	0.3218703843
V21	Store knowledge on customers	0.5243155629
V27	Store knowledge on methods and processes	0.2097279469
V29	Intranet infrastructure implemented in organisation	0.1664954040
V55	Willingness to share knowledge	0.2327233281

Predicted Model Matrix

S13

S2	BI v53 v54 & v58	0.2328579834
S4	BI v43 & v44	0.2267342828
S6	AG v76 & v77	0.1620395721
S7	AG v81 & v82 & v84	0.1327060292
S8	OL v3 v8-v13	0.1931991599
S9	OL v14 v15 v18 & v20	0.3218703843
S13	v32 v35	0.3436304400
V21	Store knowledge on customers	0.4375234506
V27	Store knowledge on methods and processes	0.1750108169
V29	Intranet infrastructure implemented in organisation	0.2300194409
V55	Willingness to share knowledge	0.1627826030

Predicted Model Matrix

V21

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S2	BI v53 v54 & v58	0.3982998364
S4	BI v43 & v44	0.3878253451
S6	AG v76 & v77	0.2512412715
S7	AG v81 & v82 & v84	0.2057598098

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Covariance Structure Analysis: Maximum Likelihood Estimation

Predicted Model Matrix

		V21
S8	OL v3 v8-v13	0.3147146529
S9	OL v14 v15 v18 & v20	0.5243155629
S13	v32 v35	0.4375234506
V21	Store knowledge on customers	0.9670362244
V27	Store knowledge on methods and processes	0.3788111810
V29	Intranet infrastructure implemented in organisation	0.2263198082
V55	Willingness to share knowledge	0.2523933360

Predicted Model Matrix

		V27
S2	BI v53 v54 & v58	0.1593212425
S4	BI v43 & v44	0.1551314115
S6	AG v76 & v77	0.1004973336
S7	AG v81 & v82 & v84	0.0823045996
S8	OL v3 v8-v13	0.1258868946
S9	OL v14 v15 v18 & v20	0.2097279469
S13	v32 v35	0.1750108169
V21	Store knowledge on customers	0.3788111810
V27	Store knowledge on methods and processes	0.3634160655
V29	Intranet infrastructure implemented in organisation	0.0905286665
V55	Willingness to share knowledge	0.1009581632

Predicted Model Matrix

		V29
S2	BI v53 v54 & v58	0.1204515417
S4	BI v43 & v44	0.1172839064
S6	AG v76 & v77	0.0838189698
S7	AG v81 & v82 & v84	0.0686454704
S8	OL v3 v8-v13	0.0999370360
S9	OL v14 v15 v18 & v20	0.1664954040
S13	v32 v35	0.2300194409
V21	Store knowledge on customers	0.2263198082
V27	Store knowledge on methods and processes	0.0905286665
V29	Intranet infrastructure implemented in organisation	0.2999205225
V55	Willingness to share knowledge	0.0842033209

Predicted Model Matrix

		V55
S2	BI v53 v54 & v58	0.1699541470
S4	BI v43 & v44	0.1654846919
S6	AG v76 & v77	0.2845779947
S7	AG v81 & v82 & v84	0.2330616849
S8	OL v3 v8-v13	0.1396896194
S9	OL v14 v15 v18 & v20	0.2327233281

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Covariance Structure Analysis: Maximum Likelihood Estimation

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Predicted Model Matrix

V55

S13	v32 v35	0.1627826030
V21	Store knowledge on customers	0.2523933360
V27	Store knowledge on methods and processes	0.1009581632
V29	Intranet infrastructure implemented in organisation	0.0842033209
V55	Willingness to share knowledge	0.3573887524

Determinant 3.6733475E-9 Ln -19.422162

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Covariance Structure Analysis: Maximum Likelihood Estimation

Fit Function	0.5164
Goodness of Fit Index (GFI)	0.9137
GFI Adjusted for Degrees of Freedom (AGFI)	0.8372
Root Mean Square Residual (RMR)	0.0141
Parsimonious GFI (Mulaik, 1989)	0.5814
Chi-Square	632.1067
Chi-Square DF	35
Pr > Chi-Square	<.0001
Independence Model Chi-Square	11471
Independence Model Chi-Square DF	55
RMSEA Estimate	0.1181
RMSEA 90% Lower Confidence Limit	0.1101
RMSEA 90% Upper Confidence Limit	0.1262
ECVI Estimate	0.5676
ECVI 90% Lower Confidence Limit	0.5037
ECVI 90% Upper Confidence Limit	0.6376
Probability of Close Fit	0.0000
Bentler's Comparative Fit Index	0.9477
Normal Theory Reweighted LS Chi-Square	636.2375
Akaike's Information Criterion	562.1067
Bozdogan's (1987) CAIC	348.2323
Schwarz's Bayesian Criterion	383.2323
McDonald's (1989) Centrality	0.7837
Bentler & Bonett's (1980) Non-normed Index	0.9178
Bentler & Bonett's (1980) NFI	0.9449
James, Mulaik, & Brett (1982) Parsimonious NFI	0.6013
Z-Test of Wilson & Hilferty (1931)	20.4564
Bollen (1986) Normed Index Rhol	0.9134
Bollen (1988) Non-normed Index Delta2	0.9478
Hoelter's (1983) Critical N	98

WARNING: The central parameter matrix _PHI_ has probably 2 negative eigenvalue(s).

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Covariance Structure Analysis: Maximum Likelihood Estimation

Raw Residual Matrix

S2

S2	BI v53 v54 & v58	0.0000000000
S4	BI v43 & v44	0.0000000000
S6	AG v76 & v77	-.0096919296
S7	AG v81 & v82 & v84	0.0070749938
S8	OL v3 v8-v13	0.0366491852
S9	OL v14 v15 v18 & v20	-.0003827057
S13	v32 v35	0.0031924953
V21	Store knowledge on customers	-.0239280891

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V27	Store knowledge on methods and processes	0.0336142280
V29	Intranet infrastructure implemented in organisation	-.0080873020
V55	Willingness to share knowledge	0.0329671706

Raw Residual Matrix

S4

S2	BI v53 v54 & v58	0.0000000000
S4	BI v43 & v44	0.0000000000
S6	AG v76 & v77	-.0120995891
S7	AG v81 & v82 & v84	0.0067886592
S8	OL v3 v8-v13	-.0059950238
S9	OL v14 v15 v18 & v20	-.0110826132
S13	v32 v35	-.0094160851
V21	Store knowledge on customers	0.0177384251
V27	Store knowledge on methods and processes	0.0518904154
V29	Intranet infrastructure implemented in organisation	-.0005225605
V55	Willingness to share knowledge	-.0021424887

Raw Residual Matrix

S6

S2	BI v53 v54 & v58	-.0096919296
S4	BI v43 & v44	-.0120995891
S6	AG v76 & v77	0.0000000000
S7	AG v81 & v82 & v84	0.0005243253
S8	OL v3 v8-v13	-.0223997188
S9	OL v14 v15 v18 & v20	-.0097792846
S13	v32 v35	-.0093383471
V21	Store knowledge on customers	-.0116483392
V27	Store knowledge on methods and processes	0.0030648828
V29	Intranet infrastructure implemented in organisation	-.0012443764
V55	Willingness to share knowledge	0.0012652735

Raw Residual Matrix

S7

S2	BI v53 v54 & v58	0.0070749938
S4	BI v43 & v44	0.0067886592

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Covariance Structure Analysis: Maximum Likelihood Estimation

Raw Residual Matrix

S7

S6	AG v76 & v77	0.0005243253
S7	AG v81 & v82 & v84	0.0000000000
S8	OL v3 v8-v13	0.0292538386
S9	OL v14 v15 v18 & v20	0.0180089784
S13	v32 v35	0.0043004204
V21	Store knowledge on customers	0.0176533672
V27	Store knowledge on methods and processes	0.0141647285
V29	Intranet infrastructure implemented in organisation	-.0036588826
V55	Willingness to share knowledge	-.0036093730

Raw Residual Matrix

S8

S2	BI v53 v54 & v58	0.0366491852
S4	BI v43 & v44	-.0059950238
S6	AG v76 & v77	-.0223997188
S7	AG v81 & v82 & v84	0.0292538386

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S8	OL v3 v8-v13	0.0000000000
S9	OL v14 v15 v18 & v20	0.0000000000
S13	v32 v35	0.0062130461
V21	Store knowledge on customers	-.0148401820
V27	Store knowledge on methods and processes	-.0026708039
V29	Intranet infrastructure implemented in organisation	0.0068823574
V55	Willingness to share knowledge	0.0230638035

Raw Residual Matrix

S9

S2	BI v53 v54 & v58	-.0003827057
S4	BI v43 & v44	-.0110826132
S6	AG v76 & v77	-.0097792846
S7	AG v81 & v82 & v84	0.0180089784
S8	OL v3 v8-v13	0.0000000000
S9	OL v14 v15 v18 & v20	0.0000000000
S13	v32 v35	0.0038626672
V21	Store knowledge on customers	-.0029460060
V27	Store knowledge on methods and processes	-.0135539581
V29	Intranet infrastructure implemented in organisation	0.0132543452
V55	Willingness to share knowledge	0.0048970932

Raw Residual Matrix

S13

S2	BI v53 v54 & v58	0.0031924953
S4	BI v43 & v44	-.0094160851
S6	AG v76 & v77	-.0093383471
S7	AG v81 & v82 & v84	0.0043004204

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Covariance Structure Analysis: Maximum Likelihood Estimation

Raw Residual Matrix

S13

S8	OL v3 v8-v13	0.0062130461
S9	OL v14 v15 v18 & v20	0.0038626672
S13	v32 v35	0.0000000000
V21	Store knowledge on customers	-.0080915432
V27	Store knowledge on methods and processes	0.0062967927
V29	Intranet infrastructure implemented in organisation	0.0009890751
V55	Willingness to share knowledge	0.0089690624

Raw Residual Matrix

V21

S2	BI v53 v54 & v58	-.0239280891
S4	BI v43 & v44	0.0177384251
S6	AG v76 & v77	-.0116483392
S7	AG v81 & v82 & v84	0.0176533672
S8	OL v3 v8-v13	-.0148401820
S9	OL v14 v15 v18 & v20	-.0029460060
S13	v32 v35	-.0080915432
V21	Store knowledge on customers	0.0000000000
V27	Store knowledge on methods and processes	-.0007160035
V29	Intranet infrastructure implemented in organisation	-.0285164924
V55	Willingness to share knowledge	0.0022016882

Raw Residual Matrix

V27

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S2	BI v53 v54 & v58	0.0336142280
S4	BI v43 & v44	0.0518904154
S6	AG v76 & v77	0.0030648828
S7	AG v81 & v82 & v84	0.0141647285
S8	OL v3 v8-v13	-.0026708039
S9	OL v14 v15 v18 & v20	-.0135539581
S13	v32 v35	0.0062967927
V21	Store knowledge on customers	-.0007160035
V27	Store knowledge on methods and processes	0.0000000000
V29	Intranet infrastructure implemented in organisation	0.0188220684
V55	Willingness to share knowledge	0.0105104047

Raw Residual Matrix

V29

S2	BI v53 v54 & v58	-.0080873020
S4	BI v43 & v44	-.0005225605
S6	AG v76 & v77	-.0012443764
S7	AG v81 & v82 & v84	-.0036588826
S8	OL v3 v8-v13	0.0068823574
S9	OL v14 v15 v18 & v20	0.0132543452

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Covariance Structure Analysis: Maximum Likelihood Estimation

Raw Residual Matrix

V29

S13	v32 v35	0.0009890751
V21	Store knowledge on customers	-.0285164924
V27	Store knowledge on methods and processes	0.0188220684
V29	Intranet infrastructure implemented in organisation	0.0000000000
V55	Willingness to share knowledge	-.0028322884

Raw Residual Matrix

V55

S2	BI v53 v54 & v58	0.0329671706
S4	BI v43 & v44	-.0021424887
S6	AG v76 & v77	0.0012652735
S7	AG v81 & v82 & v84	-.0036093730
S8	OL v3 v8-v13	0.0230638035
S9	OL v14 v15 v18 & v20	0.0048970932
S13	v32 v35	0.0089690624
V21	Store knowledge on customers	0.0022016882
V27	Store knowledge on methods and processes	0.0105104047
V29	Intranet infrastructure implemented in organisation	-.0028322884
V55	Willingness to share knowledge	0.0000000000

Average Absolute Residual	0.009141
Average Off-diagonal Absolute Residual	0.010969

Rank Order of the 10 Largest Raw Residuals

Row	Column	Residual
V27	S4	0.05189
S8	S2	0.03665
V27	S2	0.03361
V55	S2	0.03297
S8	S7	0.02925
V29	V21	-0.02852
V21	S2	-0.02393
V55	S8	0.02306

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S8 S6 -0.02240
V29 V27 0.01882

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The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Asymptotically Standardized Residual Matrix

S2

S2	BI v53 v54 & v58	0.000000000
S4	BI v43 & v44	0.000000000
S6	AG v76 & v77	-2.543518961
S7	AG v81 & v82 & v84	1.595470473
S8	OL v3 v8-v13	6.100747220
S9	OL v14 v15 v18 & v20	-0.087459548
S13	v32 v35	1.324741147
V21	Store knowledge on customers	-8.087878895
V27	Store knowledge on methods and processes	5.868702744
V29	Intranet infrastructure implemented in organisation	-1.419714845
V55	Willingness to share knowledge	7.361266741

Asymptotically Standardized Residual Matrix

S4

S2	BI v53 v54 & v58	0.000000000
S4	BI v43 & v44	0.000000000
S6	AG v76 & v77	-3.673414840
S7	AG v81 & v82 & v84	1.695541249
S8	OL v3 v8-v13	-1.078814082
S9	OL v14 v15 v18 & v20	-2.765978831
S13	v32 v35	-4.460635565
V21	Store knowledge on customers	7.345641147
V27	Store knowledge on methods and processes	9.910610120
V29	Intranet infrastructure implemented in organisation	-0.100195939
V55	Willingness to share knowledge	-0.540654663

Asymptotically Standardized Residual Matrix

S6

S2	BI v53 v54 & v58	-2.543518961
S4	BI v43 & v44	-3.673414840
S6	AG v76 & v77	0.000000000
S7	AG v81 & v82 & v84	0.895679091
S8	OL v3 v8-v13	-4.362382003
S9	OL v14 v15 v18 & v20	-3.983688523
S13	v32 v35	-3.408355237
V21	Store knowledge on customers	-3.118512660
V27	Store knowledge on methods and processes	0.463440163
V29	Intranet infrastructure implemented in organisation	-0.195867484
V55	Willingness to share knowledge	2.995335216

Asymptotically Standardized Residual Matrix

S7

S2	BI v53 v54 & v58	1.595470473
S4	BI v43 & v44	1.695541249

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Asymptotically Standardized Residual Matrix

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S7

S6	AG v76 & v77	0.895679091
S7	AG v81 & v82 & v84	0.000000000
S8	OL v3 v8-v13	5.688671128
S9	OL v14 v15 v18 & v20	5.001680659
S13	v32 v35	1.180715778
V21	Store knowledge on customers	3.030959695
V27	Store knowledge on methods and processes	2.229452154
V29	Intranet infrastructure implemented in organisation	-0.606918344
V55	Willingness to share knowledge	-3.978386160

Asymptotically Standardized Residual Matrix

S8

S2	BI v53 v54 & v58	6.100747220
S4	BI v43 & v44	-1.078814082
S6	AG v76 & v77	-4.362382003
S7	AG v81 & v82 & v84	5.688671128
S8	OL v3 v8-v13	0.000000000
S9	OL v14 v15 v18 & v20	0.000000000
S13	v32 v35	2.239193739
V21	Store knowledge on customers	-2.833072617
V27	Store knowledge on methods and processes	-0.434580139
V29	Intranet infrastructure implemented in organisation	1.198410886
V55	Willingness to share knowledge	4.115158151

Asymptotically Standardized Residual Matrix

S9

S2	BI v53 v54 & v58	-0.087459548
S4	BI v43 & v44	-2.765978831
S6	AG v76 & v77	-3.983688523
S7	AG v81 & v82 & v84	5.001680659
S8	OL v3 v8-v13	0.000000000
S9	OL v14 v15 v18 & v20	0.000000000
S13	v32 v35	3.751620091
V21	Store knowledge on customers	-2.175974201
V27	Store knowledge on methods and processes	-3.422058392
V29	Intranet infrastructure implemented in organisation	4.389390424
V55	Willingness to share knowledge	1.492266036

Asymptotically Standardized Residual Matrix

S13

S2	BI v53 v54 & v58	1.324741147
S4	BI v43 & v44	-4.460635565
S6	AG v76 & v77	-3.408355237
S7	AG v81 & v82 & v84	1.180715778

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Covariance Structure Analysis: Maximum Likelihood Estimation

Asymptotically Standardized Residual Matrix

S13

S8	OL v3 v8-v13	2.239193739
S9	OL v14 v15 v18 & v20	3.751620091
S13	v32 v35	0.000000000
V21	Store knowledge on customers	-4.762809569
V27	Store knowledge on methods and processes	1.658468648
V29	Intranet infrastructure implemented in organisation	3.600762297
V55	Willingness to share knowledge	2.584688232

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Asymptotically Standardized Residual Matrix

		V21
S2	BI v53 v54 & v58	-8.087878895
S4	BI v43 & v44	7.345641147
S6	AG v76 & v77	-3.118512660
S7	AG v81 & v82 & v84	3.030959695
S8	OL v3 v8-v13	-2.833072617
S9	OL v14 v15 v18 & v20	-2.175974201
S13	v32 v35	-4.762809569
V21	Store knowledge on customers	0.000000000
V27	Store knowledge on methods and processes	-3.604422627
V29	Intranet infrastructure implemented in organisation	-4.855291993
V55	Willingness to share knowledge	0.419915266

Asymptotically Standardized Residual Matrix

		V27
S2	BI v53 v54 & v58	5.868702744
S4	BI v43 & v44	9.910610120
S6	AG v76 & v77	0.463440163
S7	AG v81 & v82 & v84	2.229452154
S8	OL v3 v8-v13	-0.434580139
S9	OL v14 v15 v18 & v20	-3.422058392
S13	v32 v35	1.658468648
V21	Store knowledge on customers	-3.604422627
V27	Store knowledge on methods and processes	0.000000000
V29	Intranet infrastructure implemented in organisation	2.791147083
V55	Willingness to share knowledge	1.482251343

Asymptotically Standardized Residual Matrix

		V29
S2	BI v53 v54 & v58	-1.419714845
S4	BI v43 & v44	-0.100195939
S6	AG v76 & v77	-0.195867484
S7	AG v81 & v82 & v84	-0.606918344
S8	OL v3 v8-v13	1.198410886
S9	OL v14 v15 v18 & v20	4.389390424

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Covariance Structure Analysis: Maximum Likelihood Estimation

Asymptotically Standardized Residual Matrix

		V29
S13	v32 v35	3.600762297
V21	Store knowledge on customers	-4.855291993
V27	Store knowledge on methods and processes	2.791147083
V29	Intranet infrastructure implemented in organisation	0.000000000
V55	Willingness to share knowledge	-0.418045305

Asymptotically Standardized Residual Matrix

		V55
S2	BI v53 v54 & v58	7.361266741
S4	BI v43 & v44	-0.540654663
S6	AG v76 & v77	2.995335216
S7	AG v81 & v82 & v84	-3.978386160
S8	OL v3 v8-v13	4.115158151
S9	OL v14 v15 v18 & v20	1.492266036
S13	v32 v35	2.584688232
V21	Store knowledge on customers	0.419915266

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V27	Store knowledge on methods and processes	1.482251343
V29	Intranet infrastructure implemented in organisation	-0.418045305
V55	Willingness to share knowledge	0.000000000

Average Standardized Residual	2.414099
Average Off-diagonal Standardized Residual	2.896919

Rank Order of the 10 Largest Asymptotically Standardized Residuals

Row	Column	Residual
V27	S4	9.91061
V21	S2	-8.08788
V55	S2	7.36127
V21	S4	7.34564
S8	S2	6.10075
V27	S2	5.86870
S8	S7	5.68867
S9	S7	5.00168
V29	V21	-4.85529
V21	S13	-4.76281

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The CALIS Procedure Covariance Structure Analysis: Maximum Likelihood Estimation

Distribution of Asymptotically Standardized Residuals

Each * Represents 1 Residuals

-----Range-----		Freq	Percent	
-8.27930	-7.91934	1	1.52	*
-7.91934	-7.55937	0	0.00	
-7.55937	-7.19940	0	0.00	
-7.19940	-6.83943	0	0.00	
-6.83943	-6.47946	0	0.00	
-6.47946	-6.11949	0	0.00	
-6.11949	-5.75952	0	0.00	
-5.75952	-5.39955	0	0.00	
-5.39955	-5.03958	0	0.00	
-5.03958	-4.67961	2	3.03	**
-4.67961	-4.31964	2	3.03	**
-4.31964	-3.95967	2	3.03	**
-3.95967	-3.59970	2	3.03	**
-3.59970	-3.23973	2	3.03	**
-3.23973	-2.87976	1	1.52	*
-2.87976	-2.51979	3	4.55	***
-2.51979	-2.15982	1	1.52	*
-2.15982	-1.79985	0	0.00	
-1.79985	-1.43988	0	0.00	
-1.43988	-1.07991	1	1.52	*
-1.07991	-0.71994	1	1.52	*
-0.71994	-0.35997	4	6.06	****
-0.35997	0	3	4.55	***
0	0.35997	13	19.70	*****
0.35997	0.71994	2	3.03	**
0.71994	1.07991	1	1.52	*
1.07991	1.43988	3	4.55	***
1.43988	1.79985	5	7.58	*****
1.79985	2.15982	0	0.00	
2.15982	2.51979	2	3.03	**
2.51979	2.87976	2	3.03	**
2.87976	3.23973	2	3.03	**
3.23973	3.59970	0	0.00	
3.59970	3.95967	2	3.03	**
3.95967	4.31964	1	1.52	*
4.31964	4.67961	1	1.52	*

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4.67961	5.03958	1	1.52	*
5.03958	5.39955	0	0.00	
5.39955	5.75952	1	1.52	*
5.75952	6.11949	2	3.03	**
6.11949	6.47946	0	0.00	
6.47946	6.83943	0	0.00	
6.83943	7.19940	0	0.00	
7.19940	7.55937	2	3.03	**
7.55937	7.91934	0	0.00	
7.91934	8.27930	0	0.00	
8.27930	8.63927	0	0.00	
8.63927	8.99924	0	0.00	

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The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Distribution of Asymptotically Standardized Residuals

Each * Represents 1 Residuals

-----Range-----		Freq	Percent	
8.99924	9.35921	0	0.00	
9.35921	9.71918	0	0.00	
9.71918	10.07915	1	1.52	*

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The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Manifest Variable Equations with Estimates

S2	=	1.0270	*F1	+	1.0000	E2
Std Err		0.0319	LS2F1			
t Value		32.2427				
S4	=	1.0000	F1	+	1.0000	E4
S6	=	1.0000	F2	+	1.0000	E6
S7	=	0.8190	*F2	+	1.0000	E7
Std Err		0.0191	LS7F2			
t Value		42.8454				
S8	=	0.6002	*F4	+	1.0000	E8
Std Err		0.0165	LS8F4			
t Value		36.3770				
S9	=	1.0000	F4	+	1.0000	E9
S13	=	1.0000	F5	+	1.0000	E13
V21	=	1.0000	F3	+	1.0000	E21
V27	=	0.4000	*F3	+	1.0000	E27
Std Err		0.0156	LV27F3			
t Value		25.6374				
V29	=	0.5173	*F5	+	1.0000	E29
Std Err		0.0225	LV29F5			
t Value		23.0230				
V55	=	1.0046	*F2	+	1.0000	E55
Std Err		0.0211	LV55F2			
t Value		47.6167				

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The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Latent Variable Equations with Estimates

F1	=	0.2541	*F2	+	0.2738	*F3	+	0.1479	*F5
Std Err		0.0251	PF1F2		0.0181	PF1F3		0.0192	PF1F5

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t Value	10.1198	15.1413	7.7076
		+ 1.0000 D1	
F2	= 0.0323*F3	+ 0.3618*F4	+ 0.0707*F5
Std Err	0.0207 PF2F3	0.0271 PF2F4	0.0189 PF2F5
t Value	1.5595	13.3662	3.7387
		+ 1.0000 D2	

Variances of Exogenous Variables

Variable	Parameter	Estimate	Standard Error	t Value
F3	VARF3	0.94702	0.04318	21.93
F4	VARF4	0.53057	0.02011	26.39
F5	VARF5	0.44468	0.01693	26.27
E2	VARE2	0.12538	0.00763	16.43
E4	VARE4	0.09955	0.00674	14.77
E6	VARE6	0.04771	0.00375	12.73
E7	VARE7	0.07359	0.00376	19.57
E55	VARE55	0.07151	0.00439	16.28
E21	VARE21	0.02002	0.01837	1.09
E27	VARE27	0.21189	0.00908	23.34
E8	VARE8	0.14140	0.00625	22.62
E9	VARE9	-0.06063	0.00745	-8.14
E13	VARE13	-0.10105	0.01127	-8.97
E29	VARE29	0.18094	0.00781	23.16
D1	VARD1	0.08129	0.00658	12.35
D2	VARD2	0.17989	0.00874	20.59

Covariances Among Exogenous Variables

Var1	Var2	Parameter	Estimate	Standard Error	t Value
F3	F4	CF3F4	0.52432	0.02437	21.51
F3	F5	CF3F5	0.43752	0.02062	21.22
F4	F5	CF4F5	0.32187	0.01468	21.93

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Covariance Structure Analysis: Maximum Likelihood Estimation

Manifest Variable Equations with Standardized Estimates

S2	=	0.8298*F1	+ 0.5580 E2
		LS2F1	
S4	=	0.8517 F1	+ 0.5241 E4
S6	=	0.9251 F2	+ 0.3797 E6
S7	=	0.8490*F2	+ 0.5284 E7
		LS7F2	
S8	=	0.7582*F4	+ 0.6521 E8
		LS8F4	
S9	=	1.0626 F4	+ 1.0000 E9
S13	=	1.1376 F5	+ 1.0000 E13
V21	=	0.9896 F3	+ 0.1439 E21
V27	=	0.6457*F3	+ 0.7636 E27
		LV27F3	
V29	=	0.6299*F5	+ 0.7767 E29
		LV29F5	

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V55 = 0.8944*F2 + 0.4473 E55
 LV55F2

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The CALIS Procedure
 Covariance Structure Analysis: Maximum Likelihood Estimation

Latent Variable Equations with Standardized Estimates

F1 = 0.2638*F2 + 0.5196*F3 + 0.1924*F5 + 0.5561 D1
 PF1F2 PF1F3 PF1F5
 F2 = 0.0591*F3 + 0.4951*F4 + 0.0886*F5 + 0.7969 D2
 PF2F3 PF2F4 PF2F5

Squared Multiple Correlations

	Variable	Error Variance	Total Variance	R-Square
1	S2	0.12538	0.40263	0.6886
2	S4	0.09955	0.36240	0.7253
3	S6	0.04771	0.33099	0.8558
4	S7	0.07359	0.26359	0.7208
5	S8	0.14140	0.33256	0.5748
6	S9	-0.06063	0.46994	1.1290
7	S13	-0.10105	0.34363	1.2941
8	V21	0.02002	0.96704	0.9793
9	V27	0.21189	0.36342	0.4169
10	V29	0.18094	0.29992	0.3967
11	V55	0.07151	0.35739	0.7999
12	F1	0.08129	0.26286	0.6908
13	F2	0.17989	0.28328	0.3650

Correlations Among Exogenous Variables

Var1	Var2	Parameter	Estimate
F3	F4	CF3F4	0.73968
F3	F5	CF3F5	0.67422
F4	F5	CF4F5	0.66266

Appendix H

H.8 Modification Indices

H.8.1 Lagrange Multiplier and Wald Test Indices _PHI_ [16:16]

*Symmetric Matrix : Univariate Tests for Constant Constraints
Lagrange Multiplier or Wald Index / Probability / Approx Change of Value*

	F3	F4	F5	E2	E4	E6
F3	481.0884	462.7717	450.4185	33.2523	63.3930	0.2350
	.	.	.	0.0000	0.0000	0.6278
	[VARF3]	[CF3F4]	[CF3F5]	-0.0444	0.0586	-0.0023
F4	462.7717	696.2868	480.7160	3.8693	1.4941	8.3546
	.	.	.	0.0492	0.2216	0.0038
	[CF3F4]	[VARF4]	[CF4F5]	-0.0084	-0.0049	0.0089
F5	450.4185	480.7160	690.0661	49.7018	35.9626	15.5165
	.	.	.	0.0000	0.0000	0.0001
	[CF3F5]	[CF4F5]	[VARF5]	0.0292	-0.0241	-0.0099
E2	33.2523	3.8693	49.7018	270.1083	.	22.7088
	0.0000	0.0492	0.0000	.	.	0.0000
	-0.0444	-0.0084	0.0292	.	.	-0.0164
				[VARE2]	Sing	
E4	63.3930	1.4941	35.9626	.	218.1861	1.9805
	0.0000	0.2216	0.0000	.	.	0.1593
	0.0586	-0.0049	-0.0241	.	.	0.0045
				Sing	[VARE4]	
E6	0.2350	8.3546	15.5165	22.7088	1.9805	161.9636
	0.6278	0.0038	0.0001	0.0000	0.1593	.
	-0.0023	0.0089	-0.0099	-0.0164	0.0045	.
						[VARE6]
E7	1.4878	4.2392	2.8663	4.0221	6.8667	0.8023
	0.2226	0.0395	0.0905	0.0449	0.0088	0.3704
	0.0059	0.0064	-0.0043	-0.0072	0.0086	0.0044
E55	0.9008	17.9146	30.4068	73.4852	17.6316	8.9717
	0.3426	0.0000	0.0000	0.0000	0.0000	0.0027
	-0.0049	-0.0140	0.0148	0.0323	-0.0147	0.0198
E21	85.7043	32.7654	2.2606	51.0793	18.9141	0.4995
	0.0000	0.0000	0.1327	0.0000	0.0000	0.4797
	-0.4223	0.0659	-0.0145	-0.0494	0.0287	0.0030
	E7	E55	E21	E27	E8	E9
F3	1.4878	0.9008	85.7043	17.1644	7.0948	7.0970
	0.2226	0.3426	0.0000	0.0000	0.0077	0.0077
	0.0059	-0.0049	-0.4223	0.0585	-0.0165	0.0274
F4	4.2392	17.9146	32.7654	12.4808	0.7717	0.7738
	0.0395	0.0000	0.0000	0.0004	0.3797	0.3790
	0.0064	-0.0140	0.0659	-0.0176	0.0116	-0.0193
F5	2.8663	30.4068	2.2606	0.7611	4.5426	4.5426
	0.0905	0.0000	0.1327	0.3830	0.0331	0.0331
	-0.0043	0.0148	-0.0145	0.0035	0.0077	-0.0128
E2	4.0221	73.4852	51.0793	14.2134	86.4752	37.4058
	0.0449	0.0000	0.0000	0.0002	0.0000	0.0000
	-0.0072	0.0323	-0.0494	0.0210	0.0363	-0.0182
E4	6.8667	17.6316	18.9141	30.1527	9.4996	0.4875
	0.0088	0.0000	0.0000	0.0000	0.0021	0.4851
	0.0086	-0.0147	0.0287	0.0284	-0.0111	0.0019
E6	0.8023	8.9717	0.4995	0.0128	153.4989	56.8220
	0.3704	0.0027	0.4797	0.9100	0.0000	0.0000
	0.0044	0.0198	0.0030	-0.0004	-0.0337	0.0161

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E7	383.1053	15.8278	0.6635	0.0378	28.5960	0.2824
	.	0.0001	0.4153	0.8458	0.0000	0.5951
	.	-0.0189	0.0035	0.0008	0.0151	-0.0011
	[VARE7]					
E55	15.8278	265.0688	5.9403	0.1973	68.1291	45.7915
	0.0001	.	0.0148	0.6569	0.0000	0.0000
	-0.0189	.	-0.0110	0.0019	0.0246	-0.0155
	[VARE55]					
E21	0.6635	5.9403	1.1872	12.9692	37.7365	66.6833
	0.4153	0.0148	.	0.0003	0.0000	0.0000
	0.0035	-0.0110	.	-0.0628	-0.0321	0.0506
	[VARE21]					

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The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation
Lagrange Multiplier and Wald Test Indices _PHI_ [16:16]
Symmetric Matrix
Univariate Tests for Constant Constraints
Lagrange Multiplier or Wald Index / Probability / Approx Change of Value

	E13	E29	D1	D2
F3	23.2019	31.1090	12.9622	.
	0.0000	0.0000	0.0003	.
	0.0626	-0.0386	0.0415	.
	Sing			
F4	21.6830	34.8573	12.9675	.
	0.0000	0.0000	0.0003	.
	-0.0433	0.0293	-0.0167	.
	Sing			
F5	0.0084	2.6659	12.9778	.
	0.9270	0.1025	0.0003	.
	-0.0045	-0.0383	0.0508	.
	Sing			
E2	50.4966	17.4510	.	6.8017
	0.0000	0.0000	.	0.0091
	0.0234	-0.0184	.	0.0154
	Sing			
E4	43.1897	21.7397	.	0.4477
	0.0000	0.0000	.	0.5034
	-0.0209	0.0191	.	-0.0038
	Sing			
E6	16.8741	12.9612	9.5252	4.7343
	0.0000	0.0003	0.0020	0.0296
	-0.0081	0.0105	-0.0097	0.0133
E7	0.9306	1.0569	0.4687	12.4308
	0.3347	0.3039	0.4936	0.0004
	-0.0019	-0.0031	0.0022	-0.0205
E55	30.0442	19.4573	14.7306	0.1228
	0.0000	0.0000	0.0001	0.7261
	0.0116	-0.0142	0.0130	0.0023
E21	11.8450	45.0218	15.3552	18.6840
	0.0006	0.0000	0.0001	0.0000
	0.0215	-0.0372	-0.0382	-0.0589

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H.8.5 Lagrange Multiplier and Wald Test Indices _BETA

General Matrix: Identity-Minus-Inverse Model Matrix

Univariate Tests for Constant Constraints

Lagrange Multiplier or Wald Index / Probability / Approx Change of Value

	S2	S4	S6	S7	S8	S9	S13
S2	.	.	0.0382	0.0588	54.0356	1.3453	9.6935
	.	.	0.8451	0.8084	0.0000	0.2461	0.0018
	.	.	-0.0061	0.0077	0.1908	0.0390	0.1572
	Sing	Sing					
S4	.	.	1.4805	0.0604	15.7981	7.8827	14.2301
	.	.	0.2237	0.8059	0.0001	0.0050	0.0002
	.	.	-0.0366	0.0074	-0.0956	-0.0882	-0.1816
	Sing	Sing					
S6	43.4252	10.0321	.	0.8022	132.7075	25.4414	17.7175
	0.0000	0.0015	.	0.3704	0.0000	0.0000	0.0000
	-0.1070	-0.0551	.	0.0597	-0.1946	-0.0914	-0.0763
			Sing				
S7	0.3063	9.7642	0.8022	.	54.0805	24.3841	1.8155
	0.5800	0.0018	0.3704	.	0.0000	0.0000	0.1779
	0.0090	0.0539	0.0920	.	0.1259	0.0856	0.0241
				Sing			
S8	74.0251	0.6531	17.3758	16.4466	.	.	0.9026
	0.0000	0.4190	0.0000	0.0001	.	.	0.3421
	0.1746	0.0177	-0.0960	0.0973	.	.	0.0396
					Sing	Sing	
S9	45.4089	4.7978	20.2115	0.8305	.	.	4.3144
	0.0000	0.0285	0.0000	0.3621	.	.	0.0378
	-0.1115	-0.0396	0.1375	-0.0230	.	.	0.1017
					Sing	Sing	
S13	56.0414	23.4940	9.1566	0.6523	1.2765	0.5639	.
	0.0000	0.0000	0.0025	0.4193	0.2585	0.4527	.
	0.1815	-0.1389	-0.0950	-0.0199	0.0215	-0.0463	.
							Sing
V21	62.0799	2.3620	0.3155	0.0019	14.1443	6.8326	23.3375
	0.0000	0.1243	0.5743	0.9653	0.0002	0.0090	0.0000
	-0.3701	0.0827	-0.0309	-0.0021	-0.1385	0.2524	-0.4318
V27	56.3695	76.3656	1.4120	1.4412	0.2019	9.6632	6.2587
	0.0000	0.0000	0.2347	0.2299	0.6532	0.0019	0.0124
	0.2319	0.2939	0.0319	0.0352	0.0135	-0.1371	0.1180
	V21	V27	V29	V55	F1	F2	
S2	62.2825	2.3419	0.4793	41.2984	1039.5899	5.3563	
	0.0000	0.1259	0.4888	0.0000	.	0.0206	
	-0.2738	0.0385	-0.0176	0.1853	.	0.0895	
					[LS2F1]		
S4	58.0317	52.8227	1.8133	16.6911	.	5.3558	
	0.0000	0.0000	0.1781	0.0000	.	0.0207	
	0.2573	0.1703	0.0318	-0.1130	.	-0.0872	
					Sing		
S6	9.2684	3.3517	0.0106	8.9713	32.3526	.	
	0.0023	0.0671	0.9181	0.0027	0.0000	.	
	-0.0318	-0.0270	-0.0016	0.2764	-0.1431	.	
						Sing	
S7	9.4533	3.7662	0.6096	15.8279	6.2571	1835.7297	
	0.0021	0.0523	0.4349	0.0001	0.0124	.	
	0.0318	0.0294	-0.0129	-0.2637	0.0614	.	
						[LS7F2]	
S8	9.2037	4.9588	2.9112	25.3384	25.7013	1.0506	
	0.0024	0.0260	0.0880	0.0000	0.0000	0.3054	
	-0.0669	0.0431	-0.0346	0.1082	0.2109	0.0290	
S9	12.0554	17.7884	26.4224	35.1251	27.7563	1.0505	
	0.0005	0.0000	0.0000	0.0000	0.0000	0.3054	
	0.1271	-0.0677	0.0907	-0.1505	-0.1899	-0.0483	

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S13	22.0529 0.0000 0.2242	1.5650 0.2109 -0.0184	12.9595 0.0003 -1.0822	22.6852 0.0000 0.1203	12.9286 0.0003 0.3505	0.0361 0.8493 0.0104	
V21	.	12.9688 0.0003 -0.2964	46.4835 0.0000 -0.2132	7.1400 0.0075 -0.1257	27.5908 0.0000 -0.7438	2.1079 0.1465 -0.1154	
	Sing						
V27	12.9914 0.0003 -3.1381	.	21.2098 0.0000 0.1275	1.8676 0.1717 0.0349	94.9166 0.0000 0.6164	2.1075 0.1466 0.0462	
		Sing					
	S2	S4	S6	S7	S8	S9	S13
V29	15.4548 0.0001 -0.0997	4.7436 0.0294 0.0606	1.4747 0.2246 0.0283	0.5614 0.4537 -0.0185	0.0361 0.8494 0.0047	14.8895 0.0001 0.1869	12.9660 0.0003 1.9379
V55	64.0565 0.0000 0.1396	0.8426 0.3587 0.0171	8.9720 0.0027 0.4142	15.8276 0.0001 -0.2562	34.9441 0.0000 0.1082	1.5545 0.2125 0.0238	9.3872 0.0022 0.0592
F1	.	.	9.5239 0.0020 -0.2033	0.4689 0.4935 0.0295	8.5812 0.0034 0.0683	3.2141 0.0730 -0.0596	1.1363 0.2864 -0.0757
	Sing	Sing					
F2	11.7468 0.0006 0.1413	0.5485 0.4589 0.0354	4.7345 0.0296 0.2786	12.4306 0.0004 -0.2789	0.7704 0.3801 0.0296	0.7703 0.3801 0.1150	1.9151 0.1664 -0.1273
	V21	V27	V29	V55	F1	F2	
V29	23.5089 0.0000 -0.1218	7.5258 0.0061 0.0580	.	5.2915 0.0214 -0.0504	3.6199 0.0571 -0.1037	0.0361 0.8493 -0.0054	
			Sing				
V55	0.2282 0.6329 0.0053	0.5011 0.4790 0.0114	0.3004 0.5836 -0.0096	.	20.3888 0.0000 0.1206	2267.3460 . .	
				Sing		[LV55F2]	
F1	15.4187 0.0001 -1.9073	80.2876 0.0000 0.2154	0.4740 0.4912 0.0163	14.7317 0.0001 0.1816	.	102.4101 . .	
					Sing	[PF1F2]	
	V21	V27	V29	V55	F1	F2	
F2	18.7217 0.0000 -2.9414	10.5330 0.0012 0.0881	3.4809 0.0621 -0.0502	0.1228 0.7260 0.0315	12.9671 0.0003 0.4765	. . .	
						Sing	

Appendix H

H.8.6 BETA: Rank Order

Rank Order of the 10 Largest Lagrange Multipliers in _BETA_

Row	Column	Chi-Square	Pr > ChiSq
S6	S8	132.70753	<.0001
V27	F1	94.91658	<.0001
F1	V27	80.28762	<.0001
V27	S4	76.36562	<.0001
S8	S2	74.02515	<.0001
V55	S2	64.05652	<.0001
S2	V21	62.28253	<.0001
V21	S2	62.07994	<.0001
S4	V21	58.03166	<.0001
V27	S2	56.36948	<.0001

H.8.7 Stepwise Multivariate Wald Test

Parameter	-----Cumulative Statistics-----			--Univariate Increment--	
	Chi-Square	DF	Pr > ChiSq	Chi-Square	Pr > ChiSq
VARE21	1.18717	1	0.2759	1.18717	0.2759
PF2F3	3.31429	2	0.1907	2.12712	0.1447

Appendix I

I.1 Uncorrelated Factor Model

I.1.1 Syntax Code for the Uncorrelated Factor Model

```
PROC CALIS COVARIANCE CORR RESIDUAL MODIFICATION ;
  LINEQS
/*----- BI = Factor 1 (F1) -----*/
  /*S1 =      LS1F5 F5      +      E1,*/
  S2      =      LS2F1 F1      +      E2,
  /*S3 =      LS3F5 F5      +      E3,*/
  S4      =      LS4F1 F1      +      E4,
  /*V86 =      L86F1 F1      +      E86,*/

/*----- AG = Factor 2 (F2) -----*/
/* S5 =      LS5F3 F3      +      E5, */
S6 =      LS6F2      F2      +      E6,
S7 =      LS7F2      F2      +      E7,
  /* V41 =      LV41F2      F2      +      E41,*/
V55 =      LV55F2      F2      +      E55,

/*-----SC = Factor 3 (F3) -----*/
  V21 =      LV21F3      F3      +      E21,
  /*V24 =      LV24F3      F3      +      E24,*/
  V25 =      LV25F3      F3      +      E25,
  V27 =      LV27F3      F3      +      E27,

/*-----OL = Factor 4 (F4) -----*/
  S8 = LS8F4 F4 + E8,
  S9 = LS9F4 F4 + E9,
  /*S10 = LS10F4 F4 + E10,*/

  /*V42 = LV42F4 F4 + E42,*/
  /*V94 = LV94F4 F4 + E94,*/

/*-----HK= Factor 5 (F5) -----*/
  /*S11 = LS11F5 F5 + E11,*/
  /*S12 = LS12F1 F1 + E12,*/
  S13 = LS13F5 F5 + E13,
  V29 = LV29F5 F5 + E29;

STD /* ----- VARIANCE ESTIMATES ----- */

F1 = 1,
F2 = 1,
```

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```
F3 = 1,  
F4 = 1,  
F5 = 1,
```

```
/* FACTOR 1 - F1 */  
/*E1 = VARE1,*/  
E2 = VARE2,  
/*E3 = VARE3,*/  
E4 = VARE4,  
/*E86 = VARE86,*/
```

```
/* FACTOR 2 - F2 */  
/* E5 = VARE5, */  
E6 = VARE6,  
E7 = VARE7,  
/* E41 = VARE41,*/  
E55 = VARE55,
```

```
/* FACTOR 3 - F3 */  
E21 = VARE21,  
/* E24 = VARE24 */  
E25 = VARE25,  
E27 = VARE27,
```

```
/* FACTOR 4 - F4 */  
E8 = VARE8,  
E9 = VARE9,  
/* S10 = VARE10,*/  
/*E42 = VARE42,*/  
/*E94 = VARE94,*
```

```
/* FACTOR5 - F5 */  
/*E11 = VARE11,*/  
/*E12 = VARE12*/  
E13 = VARE13,  
E29 = VARE29;
```

```
COV /* ----- COVARIANCES ----- */
```

```
F1 F2 = 0,  
F1 F3 = 0,  
F1 F4 = 0,  
F1 F5 = 0,  
F2 F3 = 0,  
F2 F4 = 0,  
F2 F5 = 0,  
F3 F4 = 0,  
F3 F5 = 0,  
F4 F5 = 0;
```

```
OPTIONS LINESIZE=80 PAGESIZE=60;
```

```
/* VAR V21 V24 V25 V27 V29 V41 V42 V55 V86 V94 S1-S13; */
```

```
RUN;
```

Appendix I

I.1.2 Model Fit Summary for the Uncorrelated Factor Model

The SAS System

The CALIS Procedure

Covariance Structure Analysis: Maximum Likelihood Estimation

Fit Function	4.6604
Goodness of Fit Index (GFI)	0.5353
GFI Adjusted for Degrees of Freedom (AGFI)	0.3287
Root Mean Square Residual (RMR)	0.2071
Parsimonious GFI (Mulaik, 1989)	0.4380
Chi-Square	5704.3711
Chi-Square DF	54
Pr > Chi-Square	<.0001
Independence Model Chi-Square	15845
Independence Model Chi-Square DF	66
RMSEA Estimate	0.2924
RMSEA 90% Lower Confidence Limit	0.2860
RMSEA 90% Upper Confidence Limit	.
ECVI Estimate	4.7001
ECVI 90% Lower Confidence Limit	4.4995
ECVI 90% Upper Confidence Limit	.
Probability of Close Fit	.
Bentler's Comparative Fit Index	0.6419
Normal Theory Reweighted LS Chi-Square	6375.8240
Akaike's Information Criterion	5596.3711
Bozdogan's (1987) CAIC	5266.3935
Schwarz's Bayesian Criterion	5320.3935
McDonald's (1989) Centrality	0.0996
Bentler & Bonett's (1980) Non-normed Index	0.5623
Bentler & Bonett's (1980) NFI	0.6400
James, Mulaik, & Brett (1982) Parsimonious NFI	0.5236
Z-Test of Wilson & Hilferty (1931)	58.1656
Bollen (1986) Normed Index Rhol	0.5600
Bollen (1988) Non-normed Index Delta2	0.6422
Hoelter's (1983) Critical N	17

WARNING: The central parameter matrix _PHI_ has probably 3 negative eigenvalue(s).