Data Mining with IBM SPSS AMOS 20.0 (IBM: Statistical Package for Social Sciences AMOS 20)

Case Study

This is a simple regression model where a SEM has been used to predict performance determined by Knowledge, Value and Satisfaction. A total of 98 responses were collected from the survey. The data set used in this analysis is downloaded from the website in the format as a working file *Warren9v.wk1* (containing the sample variances and co-variances of these subtests).

Variable name Description

<i>Iperformance</i> 12-item subtest of Role Performance	2performance 12-item subtest of Role Performance
Iknowledge 13-item subtest of Knowledge	2knowledge 13-item subtest of Knowledge
Ivalue 15-item subtest of Value Orientation	2value 15-item subtest of Value Orientation
Isatisfaction 5-item subtest of Role Satisfaction	2satisfaction 6-item subtest of Role Satisfaction

Click on IBM SPSS AMOS 20.0 Select Amos Graphics OK



Specifying the Data File

- > From the menus, choose File \rightarrow Working Files.
- > In the Data Files dialog box, click File Name.
- ➢ Browse to the required file, click OK.

sis Unn	amed p	roject : I	Group n	umber	1 : Inp	ut
File Edi	t View	Diagram	Analyze	Tools	Plugins	Help
New						
🚅 New	with Ter	mplate				
🚔 Ope	n					
🔠 Retr	ieve Back	cup				
Save					C	trl+S
Save Save	SAS SAC Ten	olate				
III Data	Filee				0	HTD.
- Dulut					0	
Bros	elect dat	a file(s)			0	m+P
I File	Manager.					
D:\F	- Program F	iles\IBM\S	PSS\Amo	\Ex01-a	.amw	
D:\F	rogram F	iles\IBM\S	PSS\Amo	\Ex33-c	.amw	
D:\F	rogram F	iles\IBM\S	PSS\Amo	\Ex34-a	.amw	
D:\F	rogram F	iles\IBM\S	PSS\Amo	\Ex34-b	.amw	
D:\F	rogram F	iles\IBM\S	PSS\Amo	\Ex35-b	.amw	
D:10	rogram r	nes/tow/2	P55\Amo	.\EX35-C	.amw	
💶 Exit						_
		800				
	~ L	<u> </u>				
	t (-				
6	<u> </u>	and l				
C.	<u>-</u>	<u> </u>			_	
1.	2-22	a la contra la c				

iowkype_	variane	1performance	2performance	1knowledge	2knowledge	1value	2value	1:atisfaction	2satisfaction	past_tra
		98	98	98	98	98	98	98	98	98
COV	1performance	0.0271								
COV	2performance	0.0172	0.0222							
COV	1knowledge	0.0219	0.0193	0.0876						
COV	Зклонiedge	0.0164	0.013	0.0317	0.0568					
COV	1 value	0.0284	0.0294	0.0383	0.0151	0.1826				
COV	2value	0.0217	0.0185	0.0356	0.023	0.0774	0.1473			
COV	1satisfaction	0.0063	0.0011	-0.0001	0.0055	-0.0087	-0.0069	0.1137		
COV	2satisfaction	0.0074	0.0015	0.0035	0.0089	-0.0007	-0.0088	0.0722	0.1024	
COV	past_training	0.018	0.0194	0.0203	0.0182	0.0563	0.0142	-0.0056	-0.0077	0.0946
nean		0.0646	0.0542	1.4333	1.3259	2.8404	2.9143	2.4514	2.4711	21174

Instructor: Dr. Prabhat Mittal Ph.D.(FMS, DU) Post-doctoral, University of Minnesota, USA URL: <u>http://people.du.ac.in/~pmittal/</u>

Specifying the Model and Variables (Measurement Model)

- The next step is to draw the variables in your model. First, you'll draw three rectangles to represent the observed variables, and then you'll draw an ellipse to represent the unobserved variable.
- > From the menus, choose Diagram \rightarrow Draw Observed.
- In the drawing area, move your mouse pointer to where you want the Education rectangle to appear. Click and drag to draw the rectangle. Don't worry about the exact size or placement of the rectangle because you can change it later.
- > Use the same method to draw two more rectangles for Income and SAT.
- In the drawing area, move your mouse pointer to the right of the three rectangles and click and drag to draw the ellipse.
- > The model in your drawing area should now look similar to the following:

Naming the Variables and drawing arrows

- > From the menu, select view-variables in the data set
- > From the variable list drag the corresponding variables to the rectangles
- Draw an eclipse for the residual term and to name the variable double click the eclipse an object properties dialog box will be opened. Name the variable.
- Click the Parameters tab.
- ➢ In the Regression weight text box, type 1.
- Close the Object Properties dialog box.
- Now you will add arrows to the path diagram, using the following model as your guide:
- From the menus, choose Diagram \rightarrow Draw Path.
- Click and drag to draw an arrow between Education and SAT.
- > Use this method to add each of the remaining single-headed arrows.
- ▶ From the menus, choose Diagram \rightarrow Draw Co-variances.
- Click and drag to draw a double-headed arrow between Income and Education. Don't worry about the curve of the arrow because you can adjust it later.
- Your path diagram is now complete, other than any changes you may wish to make to its appearance. It should look something like this:



Instructor: Dr. Prabhat Mittal Ph.D.(FMS, DU) Post-doctoral, University of Minnesota, USA URL: <u>http://people.du.ac.in/~pmittal/</u>

Setting up Optional Output

- Some of the output in Amos is optional. In this step, you will choose which portions of the optional output you want Amos to display after the analysis.
- > From the menus, choose View \rightarrow Analysis Properties. (For measurement model do not click estimate mean and intercept)
- Click the Output tab.
- Select the correlation, covariance and factor loading matrix.

Performing the Analysis

- The only thing left to do is perform the calculations for fitting the model. Note that in order to keep the parameter estimates up to date, you must do this every time you change the model, the data, or the options in the Analysis Properties dialog box.
- > From the menus, click Analyze \rightarrow Calculate Estimates.

Viewing Output

When Amos has completed the calculations, you have two options for viewing the output: text and graphics.

To View Text Output

- From the menus, choose View \rightarrow Text Output.
- The tree diagram in the upper left pane of the Amos Output window allows you to choose a portion of the text output for viewing.



Click Estimates to view the parameter estimates.



Ex05-a : Group numbe	er 1 : Input nalvze Tools Plugi	ns Help													_ 7 X
															^
	HUH	TA Amos O	utput 0 🗠 🗈 🖬 🖬 🌶		7 .	- +		1 > D	h						
Group	num	Ex05-a.an			Scalar Estim	ates (Group nu	unber l - Def	fault mod	el)					-	
		 Analys Notes 	is Summary for Group		Maximum Lil	kelihood Estiw	ates		,						
6 6 6		⊞ Variab Param	le Summary eter Summary			Keimood Esim									
🚖 🛲 X 💷	>	⊡ Notes – Co	for Model mputation of degrees o	f freedom	Regression	veignis: (Grou	ı prumber 1	- Delauli	model)						
💠 🔿 🗱 ^{OK: De}	faul	⊟ Estima	sult tes		0.000		1. O. 11	Estin	nate S.E	. C.R. I	P Label				
		i ti Sca ti Ma	alars trices		1satisfactic	on < sa on < sa	atisfaction	1.0	792 .450 000	5 1.600 .07.	i par_i				
		 Minimiz ● Pairwis 	zation History se Parameter Comparis	ons	2value	< va	alue		763 .18:	5 4.128 ***	* par_2				
	>	⊞ Model Execu	Fit tion Time		2knowledg	ge < ka	aue nowledge		683 .16	1 4.252 ***	* par_3				
Unstan Standa	darc rdize				1knowledg	ge < ku	nowledge	1.0	000						
1 ···· ··· ···					2performat	nce < pe nce < pe	erformance erformance		000 867 .110	6 7.450 ***	* par_9				
					Covariances:	(Group numbe	er 1 - Default	t model)							
Scanni	ing '							Estimat	e S.E.	C.R. P	Label				
Minimi Iter	zati atio	Group nur	mber 1		value	<> knov	wledge	.03	7 .012	3.036 .002	par_4				
Minimu Writing	um i giou				satisfaction	ι <> valu ι <> knoτ	e wledge	.00.	8 .015 4 .009	610 .542 .462 .644	par_5 par_6				
	>				knowledge	<> perf	ormance	.02	2 .005	4.210 ***	par_7				
Ex01-a Ex01	^	Detault m	odel		satisfaction	<> perb l <> perf	ormance	الال. 00:	0 .007 5 .005	3.969 **** 1.050 .294	par_8 par_10				
Ex02 Ex03 Ex04					4								Þ	-	
		– Re ⊟ Estima	sult ites		Variance	s: (Group num	ıber 1 - Defa	ult mode	l)						
		⊟ Sc	alars Regression Weights:				Estimate	S.E.	C.R.	P Label					
			Covariances:		satisfac	tion	.090	.052	1.745	.081 par_11					
		🕀 Ma	variances: itrices		value	dаe	.100	.032	3.147 3.138	.002 par_12 .002 par_13					
		Minimi	Factor Score Weights zation History		perform	nance	.020	.004	4.626	**** par_14					
		⊡ Pairwi	se Parameter Comparis	sons	error3		.041	.011	3.611	**** par_15					
		- Va - Co	riance-covariance Mai rrelations of Estimates	trix of Estimates	error4		.035	.007	5.167	*** par_16					
		⊞ Model Execu	Fit tion Time		erroro		.080	.025	5.249 4 891	.001 par_1/					
					error7		.022	.049	.451	.652 par_19					
					error8		.045	.032	1.420	.156 par_20					
					error1		.007	.002	3.110	.002 par_21					
		Dyramal	iar Cummanu		ciroiz		.007	.002	5.071	par_22					
		Notes for	or Model	<u> </u>	Factor Score We	eights (Group n	umber 1 - Def:	ault model	1)						-
		- Com - Resi	putation of degrees of fre ult	edom		marformar	nca Inarfa	mance	Deatisfact	ion Insticfaction	Inches	Irrohua - S	Inomiadaa	llenorriledge	
		🖻 Estimate	*5		n orfe	2periorniai o	ne ipeno 150	7000 AURILIC	2.5aมี314Ul	1011 IB4UB14U1011	010	1 V ALUE 2	U24	17110 WIEUge	
		⊟ Scal	ars Iomocsion Wainkte		periormance	د. م	UU 14	.400 040	J. م	UIZ. CUIZ	VIV.	.027	.USU 040	.044	
			iograssion weights. Iovariances:		knowledge	.4	.14 156	.248	J. م	100 .001 040 040	.UI9 044	.027	.249	.511	
		-γ	ariances:		value	.4	.20 .21	.291	U	/19049 \s1 c20	.244	.548	.042	000.	
		🖻 Matr	ices		satistaction	.0	31	.036	.2	301 .038	010	014	.000	.000	
			actor Score Weights ation History												
			Parameter Comparisons												
		🕀 Model F	it												
		- Execution	on lime	×											
LOADINGS	2Perf	1Perf	2Sat	1sat	2va1	1.	val	21-	now	1know	Δdd	& Sa	CP		AVE
Performance	0.35	0.406	20at	1541	2 vai		, ui	2R	1011	TKIOW	1100	.5715	0.999	7 0	.9993
Knowledge	5.00	21100						().249	0.311		.3136	0.981	9 0	.9649
Value					0.2	244	0.348				0	.3505	0.926.	3 0	.8663
Satisfaction			0.251	0.63	38						0	.7903	0.994	4 0	.9905
ERRORS													-		
Performance	0.007	0.007									0	.0002			
Knowledge								(0.041	0.035	0	.0058	_		
Value			0.000		0	.08	0.087				0	.0279	-		
Satisfaction	1		0.022	1 0.04	15			1		1	I ()	.0045	1		

Instructor: Dr. Prabhat Mittal Ph.D.(FMS, DU) Post-doctoral, University of Minnesota, USA URL: <u>http://people.du.ac.in/~pmittal/</u>

🏦 Ex	05-a : (Group	number 1	: OK: Default model							
File	Edit Vie	N Diag	ram Analyz	ze Tools Plugins Help							
			262 262	👬 Amos Output							
	\circ	` 8`	*	🐧 🎒 🛄 🚅 🐴 🗹 3	• 7 •	0 • †		1 2 🛈	1		
← Title	÷ 11:0:		Group num	 Ex05-a.amw Analysis Summary Notes for Group Wariable Summary 	Model I CMIN	Fit Summary					
♨	⋓	1		Parameter Summary	Mod	lel	NPAR	CMI	N DF	P	CMIN/D
		Χ	CK: Defaul	Minimization History Pairwise Parameter Comparisons	Defa Satu	ult model rated model	22 36	10.33	35 14 00 0	.737	.73
	0	2	OK. Delau	Model Fit Execution Time	Inde	pendence model	8	243.76	58 28	.000	8.70
Ģ		Ø			RMR, O	GFI					
			<		Mod	lel	RMR	GFI	AGFI	PGFI	
Ð			Unstandaro Standardize		Defa Satu	ult model rated model	.003	.975 1.000	.935	.379	
	, Elli	Ŷ			Inde	pendence model	.023	.570	.447	.443	
۲	Ð	Q			Baselir	ne Comparisons					
	€=Ø	₽ ≪	Scanning Default m	Group number 1	Mod	iel	NFI Delta1	RFI rhol	IFI Delta2	TLI rho2	CFI
	Q=Q	44	Minimizati Iteratio		Defa	ult model	.958	.915	1.016	1.034	1.000
K)		824	Writing ou Chi-square	Dafa di madal	Inde;	rated model pendence model	.000	.000	.000	.000	.000
			< >	Deraut model							

To View Graphics Output

- Click the Show the output path diagram button.
- > In the Parameter Formats pane to the left of the drawing area, click *Standardized estimates*.
- > Your path diagram now looks like this:





Specifying the Model and Drawing Variables (Structural Model)

Graphics Output (Unstandardized estimates)



Standardized estimates



Text Output



		111		👬 Amos Output								
		0	HÌH HÌH	i 💽 🚭 📭 😰 🔒 🗹 3 🔹 7	• 0	· + 🗆 🗖 🗖	<u>2</u> 💭					
Title			Group num	Ex05-a.amw Analysis Summary Notes for Group	Regression Weig	hts: (Group number 1 -	Default mode	I)				A
.Ռա	.m			Variable Summary Parameter Summary			Estimate	S.E.	C.R.	Ρ	Label	
\odot	0	0		Sample Moments	performance	< knowledge	.337	.129	2.608	.009	par_4	
4		X	< >	Notes for Model	performance	< satisfaction	.061	.053	1.156	.248	par_5	
11.007			OK: Default	Estimates	performance	< value	.176	.076	2.316	.021	par_6	
-	\mathbf{O}	•		Regression Weights:	2satisfaction	< satisfaction	.792	.493	1.606	.108	par_1	
	0-0			Standardized Regression Weights:	1 satisfaction	< satisfaction	1.000					
×γ>	.	Ó		- Covariances:	2value	< value	.763	.194	3.927	skoskosk	par_2	
	19112	HUH		- Variances:	1value	< value	1.000					
	II. 666	uuu	< >	- Squared Multiple Correlations:	2knowledge	< knowledge	.683	.164	4.157	****	par_3	
			Unstandard	Matrices	1knowledge	< knowledge	1.000					
E 5000	9-	2.5	Standardize	Minimization History	1performance	< performance	1.000					
		₩.			2performance	< performance	.867	.120	7.219	okokok:	par_9	

Instructor: Dr. Prabhat Mittal Ph.D.(FMS, DU) Post-doctoral, University of Minnesota, USA URL: <u>http://people.du.ac.in/~pmittal/</u>

sss ExO)5-a : (Group	number 1 :	DK: Default model										_ 0	×
File E	dit Vie	w Diag	gram Analyze	Tools Plugins Help											
		:::		ार्गेः Amos Output											
4	\rightarrow	Ŷ	HHH HHH	Ch. ⊕ CD ≥ Pa 2 3 • 7	• 0 •	$+ \square$	- 1 🗘								
<u> </u>	_		Group num	🖹 Ex05-a.amw 🕰 🗎 Analysis Summary	Standardized Regres	sion Weights: ((Group numb	er l - Defa	ult model)						
				Notes for Group Variable Summary			Entire								
dm	-	൘		Parameter Summary	performance <-	- knowledg	re d	ale i16							
4		X		Notes for Model	performance <-	- satisfactio	n .:	30							
		•	OK: Defaul	Estimates Scalars	performance <-	value		98							
44	\bigcirc	200		Regression Weights:	2satisfaction <-	 satisfactio 	n .	47							
\mathbf{Q}	-	C		- Covariances:	2value <-	sausiacuo value	a .c	33							
	1911	HHH		- Correlations: - Variances:	1value <-	- value		45							=
	1.000	8-11	< >	Squared Multiple Correlations:	2knowledge <-	knowledg	je .(18							
*			Unstandarc Standardize	Modification Indices	Iknowledge <-	 knowledg performation 	ie	28							
	·	``		- Minimization History	2performance <-	performat	nce .8	19							
	\leftrightarrow	Ľ	Group num	Ex05-a.amw										-	15
				Analysis Summary Notes for Group	Covariances: (Group	number 1 - Dei	àult model)								
0		0000		Variable Summary			Estimate	S.E.	C.R.	Ρ	Label				
m_	6	1		Parameter Summary Sample Moments	value <>	knowledge	.037	.012	2.996	.003	par_7				
4		\mathbf{X}		Notes for Model	satisfaction <>	value	008	.013	593	.553	par_8				
-	0	•+•	OK: Defaul	Estimates Scalars	satisfaction <>	knowledge	.004	.010	.429	.668	par_10				
**	÷	• * •	Group num	Ex05-a.amw	0.11.00		e 1 1. h							-	
				 Analysis Summary Notes for Group 	Correlations: (Group	number I - De	iauit modelj								
ßm	m			Variable Summary Parameter Summary			Estimate								
0	0	0		Sample Moments	value <>	knowledge	.542								
		X	<) >	Notes for Model Estimates	satisfaction <>	value	084								
444	0	***	OK: Defaul	Scalars	sansiaction <>	knowledge	.064								
-		 		- Standardized Regression Weights:											
	H	Ø		Covariances: Correlations											
				-Variances:											
inte				 Notes for Group Variable Summary 		Estimate	SE CI	P	Label						
(m	-	1		Parameter Summary Sample Moments	satisfaction	.090	058 1.56	2.118	par 1	1					
6		\mathbf{X}	< >	Notes for Model	value	.100 .	033 3.05	6 .002	par_1	2					
	\cap		OK: Defaul	Scalars	knowledge	.046 .	015 3.09	9 .002	par_1	3					
* 1.	U C	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		 Regression Weights: Standardized Regression Weights: 	error3	.007 .	012 3.53	2.011 7. ****	par_1 par 1:	+ 5					
\sim	H	D		Covariances:	error4	.035	007 5.10	1 ****	par_1	5					
	1922	HH		Variances	error5	.080 .	026 3.09	5 .002	par_1	7					
				Squared Multiple Correlations: Matrices	error6	.087 .	018 4.73 056 40	7 *** 0 689	par_18	3					
₩2			Standardize	Modification Indices Minimization History	error8	.045	035 1.26	4 .206	par_2	5					
	1888 L	Ŷ		, manacoornistory	error1	.007 .	002 2.98	5 .003	par_2	1					
	争	\bigcirc	Group num		error2	.007 .	002 3.73	7 ****	par_2	2				_	
				Analysis Summary - Notes for Group	Squared Multiple Co	relations: (Gro	up number l	- Default	model)						
Ore	, , , , , , , , , , , , , , , , , , ,			Variable Summary		Estimate									
0	0	9		Sample Moments	performance	.663									
6		X	< >	Notes for Model Estimates	2performance	.671									
	0		OK: Defaul	☐ Scalars	1performance	.732									
141	\bigcirc	~		Regression Weights: Standardized Regression Weight≪	2satisfaction	8CC.									
\bigcirc	-	Ø		Covariances:	2value	.401									
	1111	IIII		- Correlations: - Variances:	1 value	.556									
	1.000		<	- Squared Multiple Correlations	2knowledge	.381									
		Ы	Unstandard Standardize	Modification Indices	1knowledge	.529									

Implied (for all variables) Co-variances

	satisfaction	Peri.	2Perf.	IPert.	2Satis	1Satis	2value	1 value	2Know	1Know
.100										
008	.090									
.030	.005	.020								
.026	.005	.017	.022							
.030	.005	.020	.017	.027						
006	.071	.004	.004	.004	.101					
008	.090	.005	.005	.005	.071	.113				
.077	006	.023	.020	.023	005	006	.146			
.100	008	.030	.026	.030	006	008	.077	.181		
.025	.003	.015	.013	.015	.002	.003	.019	.025	.056	
.037	.004	.022	.019	.022	.003	.004	.028	.037	.031	.087
	.100 008 .030 .026 .030 006 .008 .077 .100 .025 .037	.100 008 .090 .030 .005 .026 .005 .030 .005 .030 .005 .006 .071 .008 .090 .077 006 .100 008 .025 .003 .037 .004	$\begin{array}{ccccccc}100 \\008 & .090 \\ .030 & .005 & .020 \\ .026 & .005 & .017 \\ .030 & .005 & .020 \\006 & .071 & .004 \\008 & .090 & .005 \\ .077 &006 & .023 \\ .100 &008 & .030 \\ .025 & .003 & .015 \\ .037 & .004 & .022 \end{array}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$					

Instructor: Dr. Prabhat Mittal Ph.D.(FMS, DU) Post-doctoral, University of Minnesota, USA

URL: <u>http://people.du.ac.in/~pmittal/</u>

Implied (for all variables) Correlations (Group number 1 - Default model)

	knowledge	value	satisfaction	Perf.	2Perf.	1Perf.	2Sa	atis 1Sa	tis 2va	lue 1 valu	e 2Know	1Kn
knowledge	1.000											
value	.542	1.00										
satisfaction	.064	084	1.00									
performance	.739	.666	.130	1.00								
2performance	.606	.546	.107	.819	1.00							
1performance	.633	.570	.111	.856	.701	1.00						
2satisfaction	.048	063	.747	.097	.080	.083	1.00					
1 satisfaction	.058	075	.896	.116	.095	.100	.669	1.00				
2value	.343	.633	053	.422	.345	.361	040	048	1.00			
1 value	.404	.745	063	.496	.407	.425	047	056	.472	1.00		
2knowledge	.618	.335	.040	.457	.374	.391	.030	.036	.212	.249	1.00	
1knowledge	.728	.394	.047	.538	.441	.460	.035	.042	.250	.294	.449	1.00

Implied Co-variances (Group number 1 - Default model)

	2performance	1performance	2satisfaction	1satisfaction	2value	1 value	2knowledge	1knowledge
2performance	.022							
1performance	.017	.027						
2satisfaction	.004	.004	.101					
1satisfaction	.005	.005	.071	.113				
2value	.020	.023	005	006	.146			
1 value	.026	.030	006	008	.077	.181		
2knowledge	.013	.015	.002	.003	.019	.025	.056	
1knowledge	.019	.022	.003	.004	.028	.037	.031	.087

Implied Correlations (Group number 1 - Default model)

	2performance	1performance	2satisfaction	1satisfaction	2value	1 value	2knowledge	1knowledge
2performance	1.000							
1performance	.701	1.000						
2satisfaction	.080	.083	1.000					
1satisfaction	.095	.100	.669	1.000				
2value	.345	.361	040	048	1.000			
1 value	.407	.425	047	056	.472	1.000		
2knowledge	.374	.391	.030	.036	.212	.249	1.000	
1knowledge	.441	.460	.035	.042	.250	.294	.449	1.000

Residual Co-variances (Group number 1 - Default model)

	2performance	1performance	2satisfaction	1satisfaction	2value	1 value	2knowledge	1knowledge
2performance	.000							
1performance	.000	.000						
2satisfaction	002	.003	.000					
1satisfaction	004	.003	.000	.000				
2value	001	001	004	001	.000			
1 value	.003	001	.006	001	.000	.000		
2knowledge	.000	.001	.007	.003	.004	010	.000	
1knowledge	.000	001	.000	004	.007	.001	.000	.000

Standardized Residual Co-variances (Group number 1 - Default model)

	2performance	1performance	2satisfaction	1satisfaction	2value	1 value	2knowledge	1knowledge
2performance	.000							
1performance	.000	.000						
2satisfaction	472	.563	.000					
1satisfaction	721	.489	.000	.000				
2value	204	161	315	057	.000			
1 value	.502	192	.409	043	.000	.000		
2knowledge	075	.249	.857	.323	.382	967	.000	
1knowledge	029	098	.019	422	.610	.085	.000	.000

Instructor: Dr. Prabhat Mittal Ph.D.(FMS, DU) Post-doctoral, University of Minnesota, USA

URL: <u>http://people.du.ac.in/~pmittal/</u>

Factor Score Weights (Group number 1 - Default model)

	2performance	1performance	2satisfaction	1 satisfaction	2value	1 value	2knowledge	1knowledge
knowledge	.214	.248	.000	.001	.019	.027	.249	.311
value	.256	.297	019	049	.244	.348	.042	.053
satisfaction	.031	.036	.251	.638	010	014	.000	.000
performance	.350	.406	.005	.012	.019	.027	.035	.044

Total Effects (Group number 1 - Default model)

	knowledge	value	satisfaction	performance
performance	.337	.176	.061	.000
2performance	.292	.152	.053	.867
1performance	.337	.176	.061	1.000
2satisfaction	.000	.000	.792	.000
1satisfaction	.000	.000	1.000	.000
2value	.000	.763	.000	.000
1 value	.000	1.000	.000	.000
2knowledge	.683	.000	.000	.000
1knowledge	1.000	.000	.000	.000

Standardized Total Effects (Group number 1 - Default model)

	knowledge	value	satisfaction	performance
performance	.516	.398	.130	.000
2performance	.423	.326	.107	.819
1performance	.441	.340	.111	.856
2satisfaction	.000	.000	.747	.000
1satisfaction	.000	.000	.896	.000
2value	.000	.633	.000	.000
1 value	.000	.745	.000	.000
2knowledge	.618	.000	.000	.000
1knowledge	.728	.000	.000	.000

Direct Effects (Group number 1 - Default model)

	knowledge	value	satisfaction	performance
performance	.337	.176	.061	.000
2performance	.000	.000	.000	.867
1performance	.000	.000	.000	1.000
2satisfaction	.000	.000	.792	.000
1satisfaction	.000	.000	1.000	.000
2value	.000	.763	.000	.000
1 value	.000	1.000	.000	.000
2knowledge	.683	.000	.000	.000
1knowledge	1.000	.000	.000	.000

Standardized Direct Effects (Group number 1 - Default model)

	knowledge	value	satisfaction	performance
performance	.516	.398	.130	.000
2performance	.000	.000	.000	.819
1performance	.000	.000	.000	.856
2satisfaction	.000	.000	.747	.000
1 satisfaction	.000	.000	.896	.000
2value	.000	.633	.000	.000
1 value	.000	.745	.000	.000
2knowledge	.618	.000	.000	.000
1knowledge	.728	.000	.000	.000

Instructor: Dr. Prabhat Mittal Ph.D.(FMS, DU)

Post-doctoral, University of Minnesota, USA

URL: <u>http://people.du.ac.in/~pmittal/</u>

Indirect Effects (Group number 1 - Default model)

	knowledge	value	satisfaction	performance
performance	.000	.000	.000	.000
2performance	.292	.152	.053	.000
1performance	.337	.176	.061	.000
2satisfaction	.000	.000	.000	.000
1 satisfaction	.000	.000	.000	.000
2value	.000	.000	.000	.000
1 value	.000	.000	.000	.000
2knowledge	.000	.000	.000	.000
1knowledge	.000	.000	.000	.000

Standardized Indirect Effects (Group number 1 - Default model)

	knowledge	value	satisfaction	performance
performance	.000	.000	.000	.000
2performance	.423	.326	.107	.000
1performance	.441	.340	.111	.000
2satisfaction	.000	.000	.000	.000
1 satisfaction	.000	.000	.000	.000
2value	.000	.000	.000	.000
1 value	.000	.000	.000	.000
2knowledge	.000	.000	.000	.000
1knowledge	.000	.000	.000	.000

Model Fit



CMIN/DF	Р	DF	CMIN	NPAR
8.706	.000	28	243.768	8
	PGFI	AGFI	GFI	RMR
	.443	.447	.570	.023
CEL	TLI	IFI	RFI	NFI
CFI	rho2	Delta2	rho1	Delta1
.000	.000	.000	.000	.000

Instructor: Dr. Prabhat Mittal Ph.D.(FMS, DU) Post-doctoral, University of Minnesota, USA

URL: <u>http://people.du.ac.in/~pmittal/</u>

PRATIO	PNFI	PCFI		
1.000	.000	.000		
NCP	LO 90	HI 90		
215.768	169.584	269.424		
FMIN	F0	LO 90	HI 90	
2.513	2.224	1.748	2.778	
RMSEA	LO 90	HI 90	PCLOSE	
.282	.250	.315	.000	
AIC	BCC	BIC	CAIC	
259.768	261.404	280.447	288.447	
ECVI	LO 90	HI 90	MECVI	
2.678	2.202	3.231	2.695	
HOELTER	HOELTER			
.05	.01			
	20			

Printing the Path Diagram

From the menus, choose File \rightarrow Print.

- > The Print dialog box appears.
- Click Print.

Copying the Path Diagram

- Amos Graphics lets you easily export your path diagram to other applications such as Microsoft Word.
- From the menus, choose Edit \rightarrow Copy (to Clipboard).
- Switch to the other application and use the Paste function to insert the path diagram.