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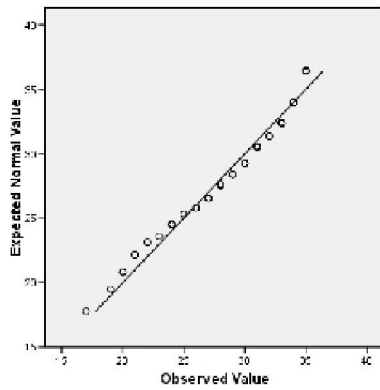
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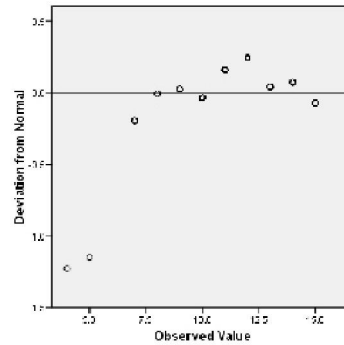
Appendix

Appendix 1 : Q-Q plots for quality management practices, organizational culture and organizational performance factors.

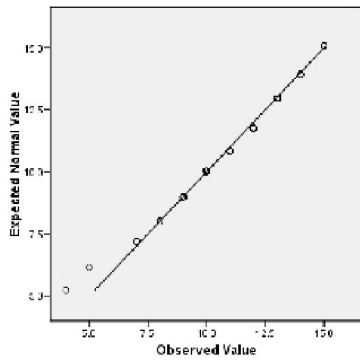
Normal Q-Q Plot of top_management_support



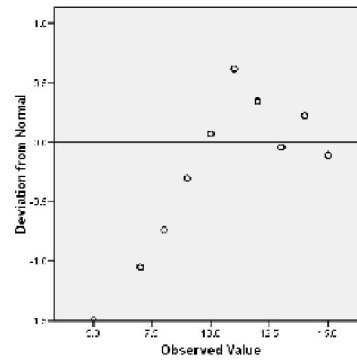
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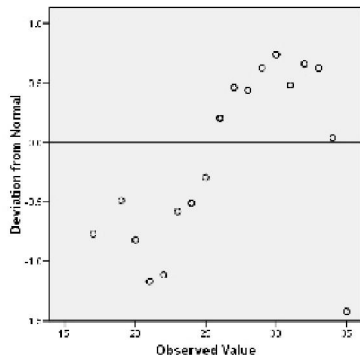
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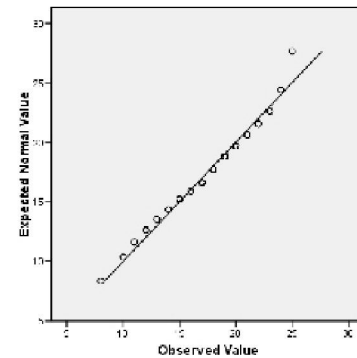
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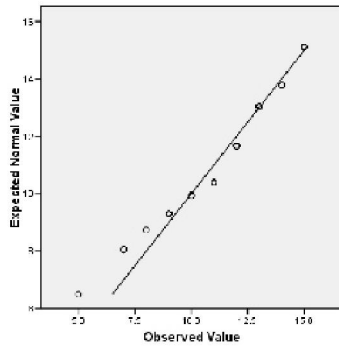
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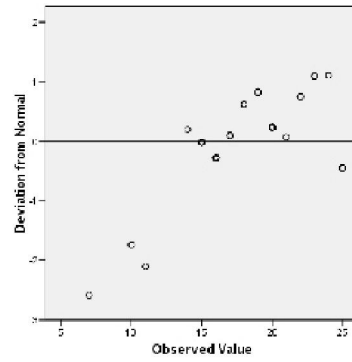
Normal Q-Q Plot of supplier_quality



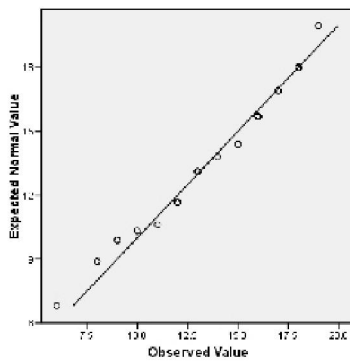
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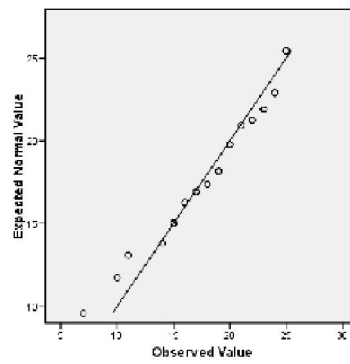
Detrended Normal Q-Q Plot of product@process_design



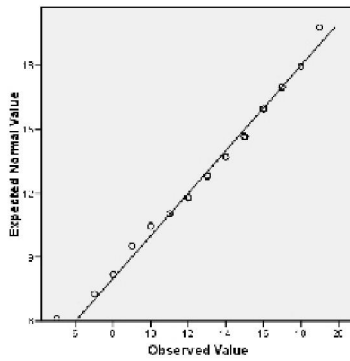
Normal Q-Q Plot of employee_training



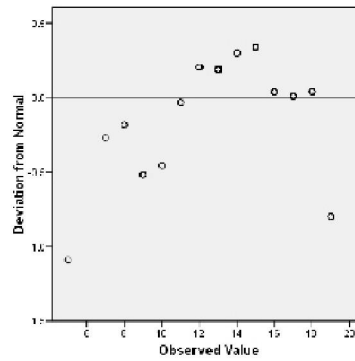
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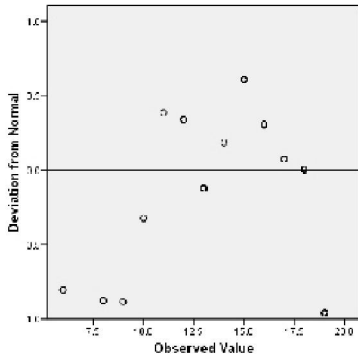
Normal Q-Q Plot of employee_involvement



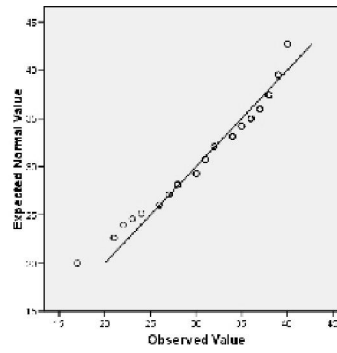
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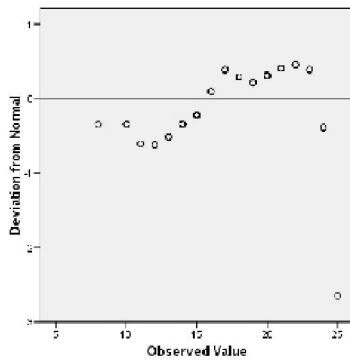
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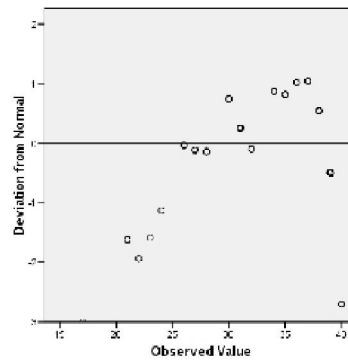
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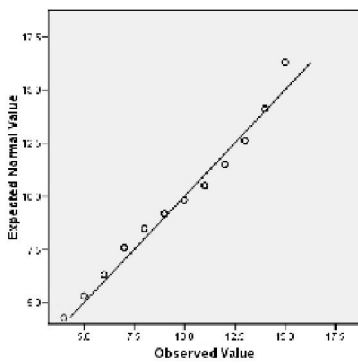
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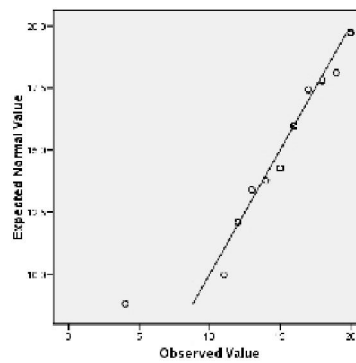
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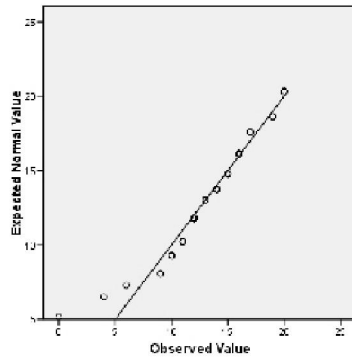
Normal Q-Q Plot of org.perf_1_process_quality



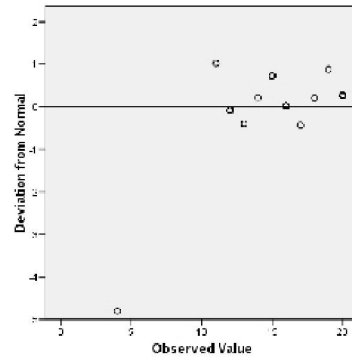
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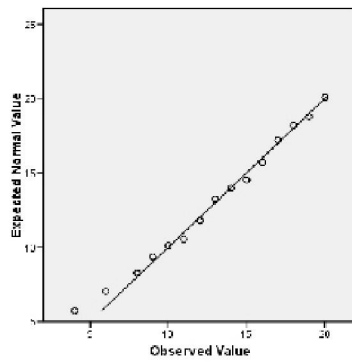
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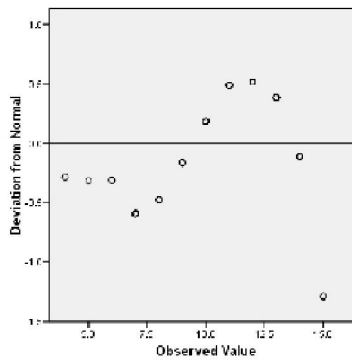
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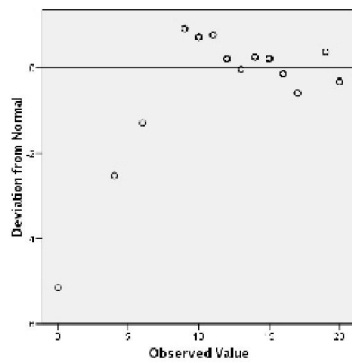
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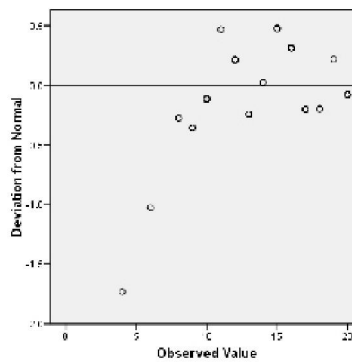
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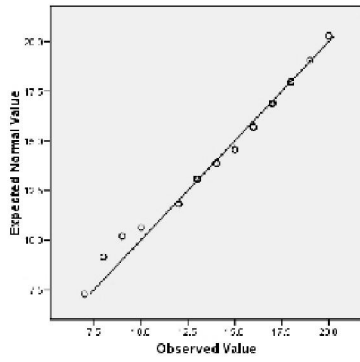
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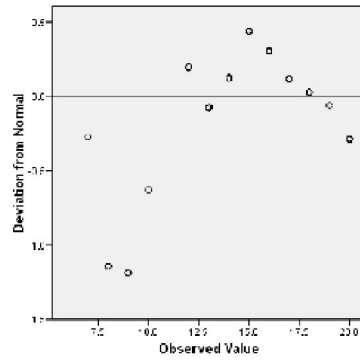
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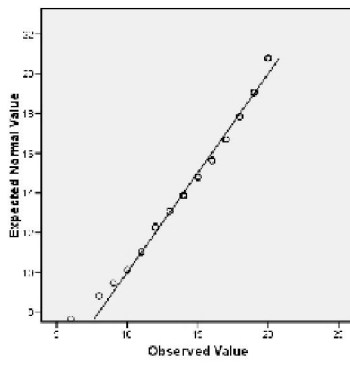
Normal Q-Q Plot of group_culture



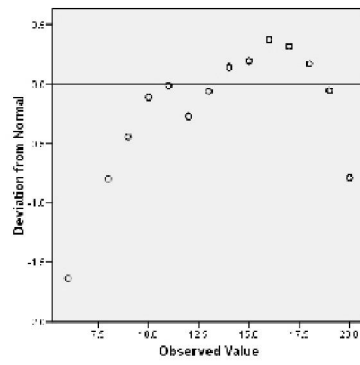
Detrended Normal Q-Q Plot of group_culture



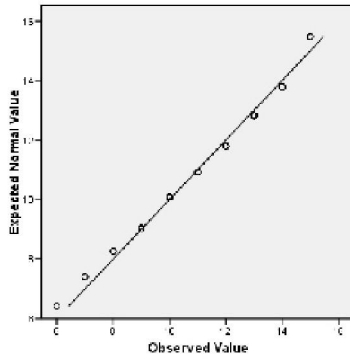
Normal Q-Q Plot of development_culture



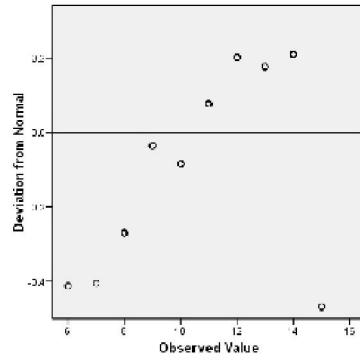
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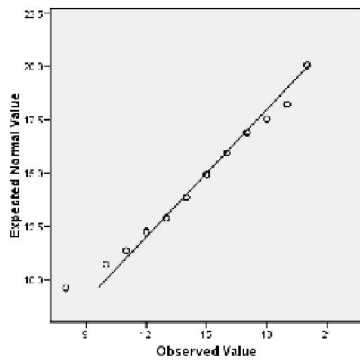
Normal Q-Q Plot of hierachical_culture



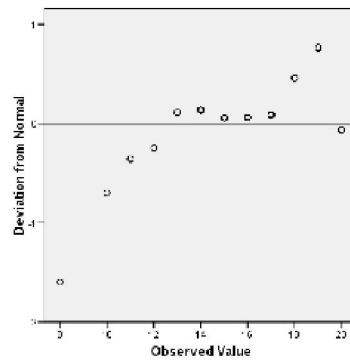
Detrended Normal Q-Q Plot of hierachical_culture



Normal Q-Q Plot of rational_culture



Detrended Normal Q-Q Plot of rational_culture



Appendix 2 Factor analysis for Quality Management Practices' factors

2.1. Top Management Support factor

Correlation Matrix for Top Management Support

	TOP_M_S1	TOP_M_S2	TOP_M_S3	TOP_M_S4	TOP_M_S5	TOP_M_S6	TOP_M_S7
Correlation TOP_M_S1	1.000	.724	.615	.675	.665	.465	.561
TOP_M_S2	.724	1.000	.742	.601	.502	.410	.563
TOP_M_S3	.615	.742	1.000	.627	.530	.486	.548
TOP_M_S4	.675	.601	.627	1.000	.754	.517	.507
TOP_M_S5	.665	.502	.530	.754	1.000	.450	.453
TOP_M_S6	.465	.410	.486	.517	.450	1.000	.466
TOP_M_S7	.561	.563	.548	.507	.453	.466	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.871
Bartlett's Test of Approx. Chi-Square Sphericity	282.529
df	21
Sig.	.000

Anti-image Matrices

	TOP_M_S1	TOP_M_S2	TOP_M_S3	TOP_M_S4	TOP_M_S5	TOP_M_S6	TOP_M_S7
Anti-image Covariance							
TOP_M_S1	.334	-.142	.012	-.042	-.111	-.033	-.064
TOP_M_S2	-.142	.322	-.170	-.029	.043	.034	-.062
TOP_M_S3	.012	-.170	.376	-.059	-.021	-.080	-.057
TOP_M_S4	-.042	-.029	-.059	.328	-.181	-.076	-.017
TOP_M_S5	-.111	.043	-.021	-.181	.380	-.020	-.010
TOP_M_S6							
	-.033	.034	-.080	-.076	-.020	.651	-.122
Anti-image Correlation							
TOP_M_S7	-.064	-.062	-.057	-.017	-.010	-.122	.577
TOP_M_S1	.877(a)	-.434	.035	-.127	-.311	-.070	-.145
TOP_M_S2	-.434	.821(a)	-.488	-.090	.122	.073	-.143
TOP_M_S3	.035	-.488	.873(a)	-.168	-.055	-.162	-.122
TOP_M_S4	-.127	-.090	-.168	.870(a)	-.512	-.165	-.040
TOP_M_S5	-.311	.122	-.055	-.512	.837(a)	-.041	-.021
TOP_M_S6	-.070	.073	-.162	-.165	-.041	.926(a)	-.198
TOP_M_S7							
	-.145	-.143	-.122	-.040	-.021	-.198	.943(a)

a Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
TOP_M_S1	.666	.703
TOP_M_S2	.678	.634
TOP_M_S3	.624	.627
TOP_M_S4	.672	.685
TOP_M_S5	.620	.555
TOP_M_S6	.349	.355
TOP_M_S7	.423	.450

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.414	63.061	63.061	4.009	57.267	57.267
2	.677	9.666	72.727			
3	.656	9.376	82.103			
4	.480	6.853	88.956			
5	.349	4.991	93.948			
6	.233	3.334	97.282			
7	.190	2.718	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix(a)

	Factor 1
TOP_M_S1	.838
TOP_M_S4	.828
TOP_M_S2	.796
TOP_M_S3	.792
TOP_M_S5	.745
TOP_M_S7	.671
TOP_M_S6	.596

Extraction Method: Principal Axis Factoring.

a 1 factors extracted. 5 iterations required.

2.2. Quality information availability factor

Correlation Matrix

	Q_INFO_AV1	Q_INFO_AV2	Q_INFO_AV3
Correlation Q_INFO_AV1	1.000	.686	.486
Q_INFO_AV2	.686	1.000	.705
Q_INFO_AV3	.486	.705	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.650
Bartlett's Test of Approx. Chi-Square Sphericity	90.171
df	3
Sig.	.000

Anti-image Matrices

		Q_INFO_AV1	Q_INFO_AV2	Q_INFO_AV3
Anti-image Covariance	Q_INFO_AV1	.529	-.238	-.002
	Q_INFO_AV2	-.238	.349	-.245
	Q_INFO_AV3	-.002	-.245	.503
Anti-image Correlation	Q_INFO_AV1	.697(a)	-.554	-.004
	Q_INFO_AV2	-.554	.599(a)	-.584
	Q_INFO_AV3	-.004	-.584	.682(a)

a Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
Q_INFO_AV1	.471	.474
Q_INFO_AV2	.651	.991
Q_INFO_AV3	.497	.500

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.256	75.198	75.198	1.965	65.510	65.510
2	.515	17.152	92.351			
3	.229	7.649	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix(a)

	Factor 1
Q_INFO_AV2	.995
Q_INFO_AV3	.707
Q_INFO_AV1	.688

Extraction Method: Principal Axis Factoring.

a 1 factors extracted. 20 iterations required.

2.3. Quality information usage factor

Correlation Matrix

		Q_INFO_U1	Q_INFO_U2	Q_INFO_U3
Correlation	Q_INFO_U1	1.000	.610	.433
	Q_INFO_U2	.610	1.000	.415
	Q_INFO_U3	.433	.415	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.657
Bartlett's Test of Approx. Chi-Square Sphericity	48.965
df	3
Sig.	.000

Anti-image Matrices

		Q_INFO_U1	Q_INFO_U2	Q_INFO_U3
Anti-image Covariance	Q_INFO_U1	.589	-.312	-.168
	Q_INFO_U2	-.312	.600	-.144
	Q_INFO_U3	-.168	-.144	.777
Anti-image Correlation	Q_INFO_U1	.624(a)	-.525	-.249
	Q_INFO_U2	-.525	.630(a)	-.211
	Q_INFO_U3	-.249	-.211	.771(a)

a Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
Q_INFO_U1	.411	.633
Q_INFO_U2	.400	.587
Q_INFO_U3	.223	.294

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.977	65.913	65.913	1.515	50.489	50.489
2	.633	21.107	87.020			
3	.389	12.980	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix(a)

	Factor 1
Q_INFO_U1	.796
Q_INFO_U2	.766
Q_INFO_U3	.543

Extraction Method: Principal Axis Factoring.

a 1 factors extracted. 10 iterations required.

2.4. Employee training factor

Correlation Matrix

		EMP_TRA1	EMP_TRA2	EMP_TRA3	EMP_TRA4
Correlation	EMP_TRA1	1.000	.534	.429	.440
	EMP_TRA2	.534	1.000	.653	.529
	EMP_TRA3	.429	.653	1.000	.667
	EMP_TRA4	.440	.529	.667	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.754
Bartlett's Test of Approx. Chi-Square Sphericity	105.617
df	6
Sig.	.000

Anti-image Matrices

		EMP_TRA1	EMP_TRA2	EMP_TRA3	EMP_TRA4
Anti-image Covariance	EMP_TRA1	.680	-.200	-.010	-.109
	EMP_TRA2	-.200	.491	-.201	-.045
	EMP_TRA3	-.010	-.201	.430	-.231
	EMP_TRA4	-.109	-.045	-.231	.522
Anti-image Correlation	EMP_TRA1	.812(a)	-.346	-.019	-.183
	EMP_TRA2	-.346	.756(a)	-.438	-.090
	EMP_TRA3	-.019	-.438	.710(a)	-.489
	EMP_TRA4	-.183	-.090	-.489	.766(a)

a Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
EMP_TRA1	.320	.352
EMP_TRA2	.509	.617
EMP_TRA3	.570	.689
EMP_TRA4	.478	.551

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.635	65.873	65.873	2.210	55.238	55.238
2	.637	15.922	81.795			
3	.448	11.191	92.986			
4	.281	7.014	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix(a)

	Factor 1
EMP_TRA3	.830
EMP_TRA2	.786
EMP_TRA4	.742
EMP_TRA1	.594

Extraction Method: Principal Axis Factoring.
a 1 factors extracted. 7 iterations required.

2.5. Employee involvement factor
2.5.1. Before data cleaning

Correlation Matrix

		EMP_INV1	EMP_INV2	EMP_INV3	EMP_INV4	EMP_INV5
Correlation	EMP_INV1	1.000	.500	.250	.550	.474
	EMP_INV2	.500	1.000	.207	.436	.481
	EMP_INV3	.250	.207	1.000	.341	.241
	EMP_INV4	.550	.436	.341	1.000	.472
	EMP_INV5	.474	.481	.241	.472	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.802
Bartlett's Test of Approx. Chi-Square Sphericity	84.638
df	10
Sig.	.000

Anti-image Matrices

		EMP_INV1	EMP_INV2	EMP_INV3	EMP_INV4	EMP_INV5
Anti-image Covariance	EMP_INV1	.589	-.169	-.032	-.203	-.119
	EMP_INV2	-.169	.659	-.019	-.085	-.179
	EMP_INV3	-.032	-.019	.872	-.156	-.051
	EMP_INV4	-.203	-.085	-.156	.597	-.133
	EMP_INV5	-.119	-.179	-.051	-.133	.655
Anti-image Correlation	EMP_INV1	.785(a)	-.271	-.045	-.343	-.191
	EMP_INV2	-.271	.811(a)	-.025	-.135	-.272
	EMP_INV3	-.045	-.025	.838(a)	-.216	-.068
	EMP_INV4	-.343	-.135	-.216	.785(a)	-.213
	EMP_INV5	-.191	-.272	-.068	-.213	.821(a)

a Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
EMP_INV1	.411	.543
EMP_INV2	.341	.427
EMP_INV3	.128	.140
EMP_INV4	.403	.529
EMP_INV5	.345	.448

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.624	52.483	52.483	2.087	41.738	41.738
2	.860	17.210	69.693			
3	.562	11.242	80.935			
4	.525	10.497	91.432			
5	.428	8.568	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix(a)

	Factor
	1
EMP_INV1	.737
EMP_INV4	.728
EMP_INV5	.669
EMP_INV2	.653
EMP_INV3	.374

Extraction Method: Principal Axis Factoring.
a 1 factors extracted. 6 iterations required.

2.5.2. After data cleaning

Correlation Matrix

		EMP_INV1	EMP_INV2	EMP_INV4	EMP_INV5
Correlation	EMP_INV1	1.000	.500	.550	.474
	EMP_INV2	.500	1.000	.436	.481
	EMP_INV4	.550	.436	1.000	.472
	EMP_INV5	.474	.481	.472	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.783
Bartlett's Test of Approx. Chi-Square Sphericity	75.801
df	6
Sig.	.000

Anti-image Matrices

		EMP_INV1	EMP_INV2	EMP_INV4	EMP_INV5
Anti-image Covariance	EMP_INV1	.590	-.170	-.220	-.121
	EMP_INV2	-.170	.660	-.092	-.181
	EMP_INV4	-.220	-.092	.626	-.150
	EMP_INV5	-.121	-.181	-.150	.658
Anti-image Correlation	EMP_INV1	.762(a)	-.273	-.362	-.195
	EMP_INV2	-.273	.798(a)	-.144	-.274
	EMP_INV4	-.362	-.144	.777(a)	-.233
	EMP_INV5	-.195	-.274	-.233	.802(a)

a Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
EMP_INV1	.410	.558
EMP_INV2	.340	.446
EMP_INV4	.374	.490
EMP_INV5	.342	.453

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.457	61.430	61.430	1.947	48.672	48.672
2	.580	14.508	75.938			
3	.528	13.201	89.139			
4	.434	10.861	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix(a)

	Factor
	1
EMP_INV1	.747
EMP_INV2	.668
EMP_INV4	.700
EMP_INV5	.673

Extraction Method: Principal Axis Factoring.
a 1 factors extracted. 7 iterations required.

2.6. Product or process design factor

Correlation Matrix

		PRO@PROC _DESIGN1	PRO@PROC _DESIGN2	PRO@PROC _DESIGN3	PRO@PROC _DESIGN4	PRO@PROC _DESIGN5
Correlation	PRO@PROC _DESIGN1	1.000	.853	.675	.562	.731
	PRO@PROC _DESIGN2	.853	1.000	.762	.592	.751
	PRO@PROC _DESIGN3	.675	.762	1.000	.735	.597
	PRO@PROC _DESIGN4	.562	.592	.735	1.000	.611
	PRO@PROC _DESIGN5	.731	.751	.597	.611	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.809
Bartlett's Test of Approx. Chi-Square Sphericity	268.733
df	10
Sig.	.000

Anti-image Matrices

		PRO@PROC _DESIGN1	PRO@PROC _DESIGN2	PRO@PROC _DESIGN3	PRO@PROC _DESIGN4	PRO@PROC _DESIGN5
Anti-image Covariance	PRO@PROC _DESIGN1	.253	-.124	-.009	-.010	-.072
	PRO@PROC _DESIGN2	-.124	.187	-.103	.036	-.085
	PRO@PROC _DESIGN3	-.009	-.103	.289	-.189	.047
	PRO@PROC _DESIGN4	-.010	.036	-.189	.406	-.122
	PRO@PROC _DESIGN5	-.072	-.085	.047	-.122	.364
Anti-image Correlation	PRO@PROC _DESIGN1	.841(a)	-.572	-.034	-.032	-.237
	PRO@PROC _DESIGN2	-.572	.774(a)	-.444	.132	-.326
	PRO@PROC _DESIGN3	-.034	-.444	.786(a)	-.553	.145
	PRO@PROC _DESIGN4	-.032	.132	-.553	.788(a)	-.318
	PRO@PROC _DESIGN5	-.237	-.326	.145	-.318	.866(a)

a Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
PRO@PROC_DESIGN1	.747	.746
PRO@PROC_DESIGN2	.813	.847
PRO@PROC_DESIGN3	.711	.690
PRO@PROC_DESIGN4	.594	.529
PRO@PROC_DESIGN5	.636	.648

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.755	75.100	75.100	3.460	69.192	69.192
2	.560	11.201	86.300			
3	.362	7.231	93.531			
4	.202	4.036	97.567			
5	.122	2.433	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix(a)

	Factor 1
PRO@PROC_DESIGN2	.920
PRO@PROC_DESIGN1	.863
PRO@PROC_DESIGN3	.831
PRO@PROC_DESIGN5	.805
PRO@PROC_DESIGN4	.728

Extraction Method: Principal Axis Factoring.
a 1 factors extracted. 6 iterations required.

2.7. Supplier quality factor

2.7.1. Before data cleaning

Correlation Matrix

		SUPPLIER Q1	SUPPLIER Q2	SUPPLIER Q3	SUPPLIER Q4	SUPPLIER Q5	SUPPLIER Q6
Correlation	SUPPLIER_Q1	1.000	.290	.464	.494	.473	.416
	SUPPLIER_Q2	.290	1.000	.133	.208	.283	.128
	SUPPLIER_Q3	.464	.133	1.000	.547	.422	.530
	SUPPLIER_Q4	.494	.208	.547	1.000	.570	.541
	SUPPLIER_Q5	.473	.283	.422	.570	1.000	.635
	SUPPLIER_Q6	.416	.128	.530	.541	.635	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.818
Bartlett's Test of Approx. Chi-Square Sphericity	134.917
	df
	15
	Sig.
	.000

Anti-image Matrices

		SUPPLIER R_Q1	SUPPLIER Q2	SUPPLIER Q3	SUPPLIER R_Q4	SUPPLIER Q5	SUPPLIER Q6
Anti-image Covariance	SUPPLIER_Q1	.640	-.139	-.135	-.108	-.090	-.023
	SUPPLIER_Q2	-.139	.878	.017	-.024	-.121	.064
	SUPPLIER_Q3	-.135	.017	.593	-.160	.019	-.152
	SUPPLIER_Q4	-.108	-.024	-.160	.526	-.132	-.075
	SUPPLIER_Q5	-.090	-.121	.019	-.132	.485	-.218
	SUPPLIER_Q6	-.023	.064	-.152	-.075	-.218	.496
Anti-image Correlation	SUPPLIER_Q1	.867(a)	-.185	-.219	-.187	-.162	-.040
	SUPPLIER_Q2	-.185	.751(a)	.024	-.035	-.186	.098
	SUPPLIER_Q3	-.219	.024	.825(a)	-.287	.036	-.279
	SUPPLIER_Q4	-.187	-.035	-.287	.852(a)	-.262	-.146
	SUPPLIER_Q5	-.162	-.186	.036	-.262	.787(a)	-.445
	SUPPLIER_Q6	-.040	.098	-.279	-.146	-.445	.791(a)

a Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
SUPPLIER_Q1	.360	.414
SUPPLIER_Q2	.122	.084
SUPPLIER_Q3	.407	.443
SUPPLIER_Q4	.474	.583
SUPPLIER_Q5	.515	.577
SUPPLIER_Q6	.504	.547

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.144	52.395	52.395	2.648	44.128	44.128
2	.962	16.041	68.437			
3	.626	10.438	78.875			
4	.516	8.593	87.468			
5	.439	7.324	94.792			
6	.312	5.208	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix(a)

	Factor 1
SUPPLIER_Q4	.763
SUPPLIER_Q5	.760
SUPPLIER_Q6	.739
SUPPLIER_Q3	.666
SUPPLIER_Q1	.644
SUPPLIER_Q2	

Extraction Method: Principal Axis Factoring.
a 1 factors extracted. 6 iterations required.

2.7.2. After data cleaning

Correlation Matrix

	SUPPLIER_Q 1	SUPPLIER_Q 3	SUPPLIER_Q 4	SUPPLIER_Q 5	SUPPLIER_Q 6
Correlation SUPPLIER_Q1	1.000	.464	.494	.473	.416
SUPPLIER_Q3	.464	1.000	.547	.422	.530
SUPPLIER_Q4	.494	.547	1.000	.570	.541
SUPPLIER_Q5	.473	.422	.570	1.000	.635
SUPPLIER_Q6	.416	.530	.541	.635	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.820
Bartlett's Test of Approx. Chi-Square Sphericity	126.772
df	10
Sig.	.000

Anti-image Matrices

		SUPPLIER_Q1	SUPPLIER_Q3	SUPPLIER_Q4	SUPPLIER_Q5	SUPPLIER_Q6
Anti-image Covariance	SUPPLIER_Q1	.662	-.137	-.116	-.117	-.013
	SUPPLIER_Q3	-.137	.593	-.160	.023	-.154
	SUPPLIER_Q4	-.116	-.160	.526	-.141	-.074
	SUPPLIER_Q5	-.117	.023	-.141	.502	-.219
	SUPPLIER_Q6	-.013	-.154	-.074	-.219	.501
	Anti-image Correlation	SUPPLIER_Q1	.870(a)	-.218	-.197	-.203
SUPPLIER_Q3		-.218	.822(a)	-.286	.041	-.283
SUPPLIER_Q4		-.197	-.286	.843(a)	-.274	-.144
SUPPLIER_Q5		-.203	.041	-.274	.786(a)	-.436
SUPPLIER_Q6		-.023	-.283	-.144	-.436	.798(a)

a Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
SUPPLIER_Q1	.338	.392
SUPPLIER_Q3	.407	.458
SUPPLIER_Q4	.474	.586
SUPPLIER_Q5	.498	.557
SUPPLIER_Q6	.499	.572

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.043	60.862	60.862	2.565	51.303	51.303
2	.630	12.595	73.457			
3	.568	11.350	84.807			
4	.441	8.812	93.619			
5	.319	6.381	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix(a)

	Factor 1
SUPPLIER_Q1	.626
SUPPLIER_Q3	.676
SUPPLIER_Q4	.765
SUPPLIER_Q5	.747
SUPPLIER_Q6	.757

Extraction Method: Principal Axis Factoring.
a. 1 factors extracted. 6 iterations required.

2.8. Customer orientation factor

2.8.1. Before data cleaning

Correlation Matrix

	CO1	CO2	CO3	CO4	CO5	CO6	CO7	CO8	
Correlation	CO1	1.000	.453	.676	.511	.513	.325	.418	.454
	CO2	.453	1.000	.559	.432	.385	.305	.451	.456
	CO3	.676	.559	1.000	.587	.678	.456	.491	.484
	CO4	.511	.432	.587	1.000	.660	.369	.480	.693
	CO5	.513	.385	.678	.660	1.000	.419	.551	.576
	CO6	.325	.305	.456	.369	.419	1.000	.252	.355
	CO7	.418	.451	.491	.480	.551	.252	1.000	.543
	CO8	.454	.456	.484	.693	.576	.355	.543	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.872
Bartlett's Test of Approx. Chi-Square Sphericity	259.267
	df
	28
	Sig.
	.000

Anti-image Matrices

	CO1	CO2	CO3	CO4	CO5	CO6	CO7	CO8	
Anti-image Covariance	CO1	.513	-.037	-.175	-.042	.001	.008	-.024	-.035
	CO2	-.037	.608	-.135	-.017	.073	-.034	-.111	-.080
	CO3	-.175	-.135	.331	-.039	-.130	-.094	-.022	.043
	CO4	-.042	-.017	-.039	.397	-.111	-.010	.009	-.186
	CO5	.001	.073	-.130	-.111	.388	-.064	-.115	-.048
	CO6	.008	-.034	-.094	-.010	-.064	.754	.046	-.057
	CO7	-.024	-.111	-.022	.009	-.115	.046	.581	-.120
	CO8	-.035	-.080	.043	-.186	-.048	-.057	-.120	.437
Anti-image Correlation	CO1	.893(a)	-.066	-.425	-.093	.002	.013	-.044	-.074
	CO2	-.066	.882(a)	-.302	-.035	.150	-.050	-.187	-.156
	CO3	-.425	-.302	.829(a)	-.108	-.363	-.189	-.050	.114
	CO4	-.093	-.035	-.108	.873(a)	-.282	-.019	.019	-.447
	CO5	.002	.150	-.363	-.282	.869(a)	-.118	-.242	-.117
	CO6	.013	-.050	-.189	-.019	-.118	.931(a)	.070	-.098
	CO7	-.044	-.187	-.050	.019	-.242	.070	.905(a)	-.238
	CO8	-.074	-.156	.114	-.447	-.117	-.098	-.238	.854(a)

a Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
CO1	.487	.474
CO2	.392	.372
CO3	.669	.674
CO4	.603	.612
CO5	.612	.630
CO6	.246	.241
CO7	.419	.422
CO8	.563	.539

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.435	55.443	55.443	3.965	49.566	49.566
2	.798	9.978	65.421			
3	.726	9.075	74.496			
4	.619	7.740	82.236			
5	.525	6.561	88.797			
6	.405	5.063	93.860			
7	.266	3.328	97.188			
8	.225	2.812	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix(a)

	Factor
	1
CO3	.821
CO5	.794
CO4	.782
CO8	.734
CO1	.688
CO7	.650
CO2	.610
CO6	.491

Extraction Method: Principal Axis Factoring.
a 1 factors extracted. 4 iterations required.

2.8.2. After data cleaning

Correlation Matrix

		CO1	CO2	CO3	CO4	CO5	CO7	CO8
Correlation	CO1	1.000	.453	.676	.511	.513	.418	.454
	CO2	.453	1.000	.559	.432	.385	.451	.456
	CO3	.676	.559	1.000	.587	.678	.491	.484
	CO4	.511	.432	.587	1.000	.660	.480	.693
	CO5	.513	.385	.678	.660	1.000	.551	.576
	CO7	.418	.451	.491	.480	.551	1.000	.543
	CO8	.454	.456	.484	.693	.576	.543	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.859
Bartlett's Test of Approx. Chi-Square Sphericity	241.694
df	21
Sig.	.000

Anti-image Matrices

		CO1	CO2	CO3	CO4	CO5	CO7	CO8
Anti-image Covariance	CO1	.513	-.037	-.180	-.042	.002	-.024	-.035
	CO2	-.037	.610	-.145	-.018	.071	-.110	-.084
	CO3	-.180	-.145	.344	-.042	-.146	-.017	.038
	CO4	-.042	-.018	-.042	.397	-.113	.010	-.189
	CO5	.002	.071	-.146	-.113	.394	-.113	-.054
	CO7	-.024	-.110	-.017	.010	-.113	.584	-.118
	CO8	-.035	-.084	.038	-.189	-.054	-.118	.441
	Anti-image Correlation	CO1	.884(a)	-.066	-.430	-.093	.003	-.045
CO2		-.066	.871(a)	-.317	-.036	.145	-.184	-.162
CO3		-.430	-.317	.815(a)	-.113	-.396	-.038	.097
CO4		-.093	-.036	-.113	.863(a)	-.286	.021	-.451
CO5		.003	.145	-.396	-.286	.854(a)	-.235	-.131
CO7		-.045	-.184	-.038	.021	-.235	.908(a)	-.232
CO8		-.073	-.162	.097	-.451	-.131	-.232	.848(a)

a Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
CO1	.487	.476
CO2	.390	.372
CO3	.656	.657
CO4	.603	.617
CO5	.606	.622
CO7	.416	.438
CO8	.559	.542

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.175	59.643	59.643	3.723	53.182	53.182
2	.735	10.494	70.136			
3	.645	9.214	79.351			
4	.529	7.555	86.905			
5	.420	6.003	92.908			
6	.270	3.851	96.759			
7	.227	3.241	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix(a)

	Factor 1
CO1	.690
CO2	.610
CO3	.810
CO4	.785
CO5	.789
CO7	.661
CO8	.736

Extraction Method: Principal Axis Factoring.
a 1 factors extracted. 4 iterations required.

Appendix 3 : Factor analysis output for all factors of Organizational culture

3.1. Factor analysis for Group factor

Correlation Matrix

		OC_GROU P1	OC_GROU P2	OC_GROU P3	OC_GROU P4
Correlation	OC_GROUP1	1.000	.621	.587	.535
	OC_GROUP2	.621	1.000	.737	.523
	OC_GROUP3	.587	.737	1.000	.581
	OC_GROUP4	.535	.523	.581	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.794
Bartlett's Test of Approx. Chi-Square Sphericity	124.953
df	6
Sig.	.000

Anti-image Matrices

		OC_GROU P1	OC_GROU P2	OC_GROU P3	OC_GROU P4
Anti-image Covariance	OC_GROUP1	.540	-.145	-.071	-.145
	OC_GROUP2	-.145	.400	-.214	-.039
	OC_GROUP3	-.071	-.214	.395	-.139
	OC_GROUP4	-.145	-.039	-.139	.601
Anti-image Correlation	OC_GROUP1	.846(a)	-.312	-.154	-.254
	OC_GROUP2	-.312	.754(a)	-.538	-.079
	OC_GROUP3	-.154	-.538	.756(a)	-.285
	OC_GROUP4	-.254	-.079	-.285	.855(a)

a Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
OC_GROUP1	.460	.541
OC_GROUP2	.600	.698
OC_GROUP3	.605	.721
OC_GROUP4	.399	.457

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.798	69.941	69.941	2.417	60.417	60.417
2	.511	12.780	82.721			
3	.438	10.959	93.679			

4	.253	6.321	100.000			
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Extraction Method: Principal Axis Factoring.

Factor Matrix(a)

	Factor
	1
OC_GROUP1	.736
OC_GROUP2	.836
OC_GROUP3	.849
OC_GROUP4	.676

Extraction Method: Principal Axis Factoring.

a 1 factors extracted. 6 iterations required.

3.2. Factor analysis for development factor

Correlation Matrix

		OC_DEV1	OC_DEV2	OC_DEV3	OC_DEV4
Correlation	OC_DEV1	1.000	.515	.311	.511
	OC_DEV2	.515	1.000	.632	.617
	OC_DEV3	.311	.632	1.000	.433
	OC_DEV4	.511	.617	.433	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.739
Bartlett's Test of Approx. Chi-Square Sphericity	94.216
df	6
Sig.	.000

Anti-image Matrices

		OC_DEV1	OC_DEV2	OC_DEV3	OC_DEV4
Anti-image Covariance	OC_DEV1	.673	-.148	.028	-.178
	OC_DEV2	-.148	.421	-.253	-.181
	OC_DEV3	.028	-.253	.597	-.047
	OC_DEV4	-.178	-.181	-.047	.565
Anti-image Correlation	OC_DEV1	.793(a)	-.277	.044	-.289
	OC_DEV2	-.277	.690(a)	-.505	-.371
	OC_DEV3	.044	-.505	.721(a)	-.081
	OC_DEV4	-.289	-.371	-.081	.784(a)

a Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
OC_DEV1	.327	.353
OC_DEV2	.579	.813
OC_DEV3	.403	.399
OC_DEV4	.435	.525

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.523	63.067	63.067	2.090	52.239	52.239
2	.717	17.928	80.996			
3	.462	11.539	92.535			
4	.299	7.465	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix(a)

	Factor
	1
OC_DEV1	.594
OC_DEV2	.902
OC_DEV3	.632
OC_DEV4	.724

Extraction Method: Principal Axis Factoring.
a 1 factors extracted. 12 iterations required.

3.3. Factor analysis for hierarchical factor

Correlation Matrix

	OC_H1	OC_H2	OC_H3
Correlation OC_H1	1.000	.477	.326
OC_H2	.477	1.000	.591
OC_H3	.326	.591	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.621
Bartlett's Test of Approx. Chi-Square Sphericity	47.105
df	3
Sig.	.000

Anti-image Matrices

	OC_H1	OC_H2	OC_H3
Anti-image Covariance OC_H1	.770	-.245	-.044
OC_H2	-.245	.561	-.316
OC_H3	-.044	-.316	.648
Anti-image Correlation OC_H1	.700(a)	-.373	-.063
OC_H2	-.373	.582(a)	-.524
OC_H3	-.063	-.524	.621(a)

a Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
OC_H1	.230	.264
OC_H2	.439	.857
OC_H3	.352	.407

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.937	64.577	64.577	1.527	50.908	50.908
2	.685	22.842	87.419			
3	.377	12.581	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix(a)

	Factor 1
OC_H1	.514
OC_H2	.925
OC_H3	.638

Extraction Method: Principal Axis Factoring.

a Attempted to extract 1 factors. More than 25 iterations required. (Convergence=.001). Extraction was terminated.

3.4. Factor analysis for rational factor

Correlation Matrix

	OC_R1	OC_R2	OC_R3	OC_R4
Correlation OC_R1	1.000	.581	.646	.540
OC_R2	.581	1.000	.667	.717
OC_R3	.646	.667	1.000	.739
OC_R4	.540	.717	.739	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.802
Bartlett's Test of Sphericity	150.141
df	6
Sig.	.000

Anti-image Matrices

		OC_R1	OC_R2	OC_R3	OC_R4
Anti-image Covariance	OC_R1	.542	-.113	-.165	-.002
	OC_R2	-.113	.420	-.067	-.169
	OC_R3	-.165	-.067	.356	-.167
	OC_R4	-.002	-.169	-.167	.364
Anti-image Correlation	OC_R1	.841(a)	-.237	-.376	-.004
	OC_R2	-.237	.826(a)	-.174	-.432
	OC_R3	-.376	-.174	.784(a)	-.465
	OC_R4	-.004	-.432	-.465	.771(a)

a Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
OC_R1	.458	.491
OC_R2	.580	.663
OC_R3	.644	.755
OC_R4	.636	.706

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.950	73.741	73.741	2.615	65.374	65.374
2	.491	12.280	86.022			
3	.332	8.289	94.310			
4	.228	5.690	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix(a)

	Factor 1
OC_R1	.701
OC_R2	.814
OC_R3	.869
OC_R4	.840

Extraction Method: Principal Axis Factoring.

a 1 factors extracted. 6 iterations required.

Appendix 4 : Factor analysis for factors of Organizational performance

4.1. Factor analysis for product quality

Correlation Matrix

		PD_Q1	PD_Q2	PD_Q3	PD_Q4
Correlation	PD_Q1	1.000	.739	.800	.635
	PD_Q2	.739	1.000	.803	.648
	PD_Q3	.800	.803	1.000	.716
	PD_Q4	.635	.648	.716	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.841
Bartlett's Test of Approx. Chi-Square Sphericity	196.306
df	6
Sig.	.000

Anti-image Matrices

		PD_Q1	PD_Q2	PD_Q3	PD_Q4
Anti-image Covariance	PD_Q1	.330	-.082	-.123	-.042
	PD_Q2	-.082	.322	-.121	-.055
	PD_Q3	-.123	-.121	.232	-.110
	PD_Q4	-.042	-.055	-.110	.468
Anti-image Correlation	PD_Q1	.854(a)	-.251	-.445	-.107
	PD_Q2	-.251	.853(a)	-.442	-.142
	PD_Q3	-.445	-.442	.780(a)	-.336
	PD_Q4	-.107	-.142	-.336	.903(a)

a Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
PD_Q1	.670	.725
PD_Q2	.678	.741
PD_Q3	.768	.883
PD_Q4	.532	.568

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.175	79.368	79.368	2.917	72.919	72.919
2	.396	9.892	89.260			
3	.260	6.508	95.768			

4	.169	4.232	100.000			
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Extraction Method: Principal Axis Factoring.

Factor Matrix(a)

	Factor
	1
PD_Q1	.851
PD_Q2	.861
PD_Q3	.940
PD_Q4	.754

Extraction Method: Principal Axis Factoring.
a 1 factors extracted. 7 iterations required.

4.2. Factor analysis for process quality

Correlation Matrix

		PcQ1	PcQ2	PcQ3
Correlation	PcQ1	1.000	.443	.555
	PcQ2	.443	1.000	.506
	PcQ3	.555	.506	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.681
Bartlett's Test of Approx. Chi-Square Sphericity	48.779
	3
	.000

Anti-image Matrices

		PcQ1	PcQ2	PcQ3
Anti-image Covariance	PCQ1	.657	-.154	-.270
	PCQ2	-.154	.706	-.228
	PCQ3	-.270	-.228	.608
Anti-image Correlation	PCQ1	.683(a)	-.227	-.427
	PCQ2	-.227	.724(a)	-.348
	PCQ3	-.427	-.348	.649(a)

a Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
PCQ1	.343	.487
PCQ2	.294	.405
PCQ3	.392	.630

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.004	66.787	66.787	1.522	50.740	50.740
2	.563	18.763	85.550			
3	.433	14.450	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix(a)

	Factor
	1
PCQ1	.698
PCQ2	.636
PCQ3	.794

Extraction Method: Principal Axis Factoring.
a 1 factors extracted. 12 iterations required.

4.3. Factor analysis for product innovation

Correlation Matrix

		PD_I1	PD_I2	PD_I3	PD_I4
Correlation	PD_I1	1.000	.726	.531	.608
	PD_I2	.726	1.000	.723	.752
	PD_I3	.531	.723	1.000	.753
	PD_I4	.608	.752	.753	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.801
Bartlett's Test of Approx. Chi-Square Sphericity	174.965
df	6
Sig.	.000

Anti-image Matrices

		PD_I1	PD_I2	PD_I3	PD_I4
Anti-image Covariance	PD_I1	.463	-.181	.023	-.058
	PD_I2	-.181	.283	-.111	-.098
	PD_I3	.023	-.111	.376	-.164
	PD_I4	-.058	-.098	-.164	.336
Anti-image Correlation	PD_I1	.810(a)	-.501	.056	-.147
	PD_I2	-.501	.775(a)	-.341	-.318
	PD_I3	.056	-.341	.805(a)	-.461
	PD_I4	-.147	-.318	-.461	.818(a)

a Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
PD_I1	.537	.525
PD_I2	.717	.839
PD_I3	.624	.648
PD_I4	.664	.743

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.052	76.294	76.294	2.756	68.888	68.888
2	.502	12.551	88.845			
3	.240	5.995	94.841			
4	.206	5.159	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix(a)

	Factor 1
PD_I1	.725
PD_I2	.916
PD_I3	.805
PD_I4	.862

Extraction Method: Principal Axis Factoring.
a 1 factors extracted. 7 iterations required.

4.4. Factor analysis for process innovation

Correlation Matrix

	PCI1	PCI2	PCI3	PCI4
Correlation PCI1	1.000	.820	.831	.740
PCI2	.820	1.000	.847	.756
PCI3	.831	.847	1.000	.711
PCI4	.740	.756	.711	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.853
Bartlett's Test of Approx. Chi-Square Sphericity	241.673
df	6
Sig.	.000

Anti-image Matrices

		PCI1	PCI2	PCI3	PCI4
Anti-image Covariance	PCI1	.244	-.064	-.097	-.080
	PCI2	-.064	.216	-.104	-.088
	PCI3	-.097	-.104	.225	-.021
	PCI4	-.080	-.088	-.021	.383
Anti-image Correlation	PCI1	.858(a)	-.280	-.412	-.262
	PCI2	-.280	.832(a)	-.474	-.307
	PCI3	-.412	-.474	.827(a)	-.070
	PCI4	-.262	-.307	-.070	.906(a)

a Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
PCI1	.756	.820
PCI2	.784	.854
PCI3	.775	.823
PCI4	.617	.650

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.354	83.855	83.855	3.147	78.676	78.676
2	.317	7.925	91.780			
3	.183	4.583	96.362			
4	.146	3.638	100.000			

Extraction Method: Principal Axis Factoring.

Factor Matrix(a)

	Factor 1
PCI1	.905
PCI2	.924
PCI3	.907
PCI4	.806

Extraction Method: Principal Axis Factoring.
a 1 factors extracted. 5 iterations required.

Appendix 5 : summary of output for all factor analysis

1. Summary of output for factor analysis of five quality management practices' factors (top management support, quality information availability, quality information usage, product or process design, and employee training)

		top management support	quality information availability	quality information usage	product or process design	employee training
correlation	maximum	0.754	0.705	0.61	0.853	0.667
	minimum	0.53	0.486	0.415	0.562	0.429
kmo		0.871	0.65	0.657	0.809	0.754
bartlett's sphericity	test of	sig	sig	sig	sig	sig
Measures of Sampling adequacy (MSA)	maximum	0.926	0.697	0.771	0.866	0.812
	minimum	0.87	0.599	0.624	0.774	0.71
total variance explained		63%	75%	66%	66%	75%
factor matrix	maximum	0.838	0.995	0.796	0.92	0.83
	minimum	0.596	0.688	0.543	0.73	0.594
item dropped						

2. summary of output for factor analysis of three quality management practices' factors before data cleaning (employee involvement, supplier quality, and customer orientation)

		employee involvement	supplier quality	customer orientation
correlation	maximum	0.55	0.635	0.678
	minimum	0.25	0.128	0.325
kmo		0.802	0.818	0.872
bartlett's test of sphericity		sig	sig	sig
Measures of Sampling adequacy (MSA)	maximum	0.838	0.867	0.931
	minimum	0.785	0.751	0.854

total variance explained		52.40%	52.30%	55.4%
factor matrix	maximum	0.737	0.763	0.821
	minimum	0.374	nil	0.491
item dropped		EMP_INV3	Supplier_Q2	CO6

3. summary of output for factor analysis of quality management practices' factors after data cleaning (employee involvement, supplier quality, and customer orientation)

		employee involvement	supplier quality	customer orientation
item dropped		EMP_INV3	Supplier_Q2	CO6
correlation	maximum	0.55	0.635	0.693
	minimum	0.472	0.416	0.418
kmo		0.783	0.82	0.859
bartlett's test of sphericity		sig	sig	sig
Measures of Sampling adequacy (MSA)	maximum	0.802	0.87	0.908
	minimum	0.762	0.786	0.815
total variance explained		61.40%	61.00%	59.60%
factor matrix	maximum	0.747	0.765	0.81
	minimum	0.668	0.626	0.61

4. Summary of output for factor analysis of organizational culture's factors

		group	development	hierachical	rational
correlation	maximum	0.737	0.632	0.591	0.717
	minimum	0.523	0.311	0.326	0.54
kmo		0.794	0.739	0.621	0.802
bartlett's test of sphericity		sig	sig	sig	sig
Measures of Sampling adequacy (MSA)	maximum	0.855	0.793	0.7	0.841
	minimum	0.754	0.69	0.582	0.771
total variance explained		70.00%	63.00%	65%	74%
factor matrix	maximum	0.849	0.724	0.925	0.84
	minimum	0.676	0.632	0.514	0.701
item dropped		nil	nil	nil	nil

5. Summary of output for factor analysis of organizational performance variables, their factors.

Variables		Quality performance		Innovation performance	
Factors		product quality	process quality	product innovation	process innovation
correlation	maximum	0.803	0.555	0.753	0.847
	minimum	0.635	0.443	0.531	0.711
kmo		0.841	0.681	0.801	0.853
bartlett's test of sphericity		sig	sig	sig	sig
Measures of Sampling adequacy (MSA)	maximum	0.903	0.724	0.818	0.906
	minimum	0.78	0.649	0.775	0.827
total variance explained		79.30%	66.80%	76%	84%
factor matrix	maximum	0.94	0.794	0.862	0.924
	minimum	0.754	0.636	0.725	0.806
item dropped		nil	nil	nil	nil

Appendix 6 : questionnaire for data collection

Quality Management Practices Assessment

This Questionnaire contains a short five pages online.

It would be over before you know it. Thank you in advance for your patience.

How concern is your company's practices in the commitments for quality as shown below :

Top management support

Your top company executive assumes responsibility for quality performance

1 2 3 4 5

least concern very concern

Acceptance of responsibility for quality by major department heads within the company

1 2 3 4 5

least concern very concern

Degree of participation by top management in the quality improvement process

1 2 3 4 5

least concern very concern

Extent to which the top management had objectives for quality performance

1 2 3 4 5

least concern very concern

Extent to which quality goals are made specific within the company

1 2 3 4 5

least concern very concern

Importance attached to quality by the top management in relation to cost and schedule objectives

1 2 3 4 5

least concern very concern

Amount of review of quality issues in the top management meetings

1 2 3 4 5

least concern very concern

Quality information availability

You are at the second page, there is only five pages in this questionnaire. Thank you for your patience.

Availability of quality data error rates, quality costs, defect rates, scrap, rework, returns, etc

1 2 3 4 5

least concern very concern

Necessary quality data are available on time

1 2 3 4 5

least concern very concern

Quality data are available to managers and supervisors

1 2 3 4 5

least concern very concern

Quality information usage

Quality data are used by top management in decision-making

1 2 3 4 5

Least concern very concern

Quality data are used by middle management in planning and controlling

1 2 3 4 5

Least concern very concern

Quality data are used by hourly workers in their operations

1 2 3 4 5

Least concern very concern

Employee training

Quality-related training is given to hourly employees throughout the company/division

1 2 3 4 5

least concern most concern

Training in the basic statistical techniques is provided in the company/division as a whole such as histograms, cause and effect diagrams, control charts, etc

1 2 3 4 5

least concern most concern

Availability of resources for employee training in the company/division

1 2 3 4 5

least concern most concern

Is training in specific work skills (technical and vocational) is given to employees throughout the company

1 2 3 4 5

least concern most concern

Employee involvement

Employee involvement programs are implemented in the company/division

1 2 3 4 5

least concerned most concerned

Hourly/non-supervisory employees participate in quality decisions?

1 2 3 4 5

least concerned most concerned

Employees are held responsible for the output of their process?

1 2 3 4 5

least concerned most concerned

Quality awareness building among employees is ongoing

1 2 3 4 5

least concerned most concerned

The company/division measures employee morale

1 2 3 4 5

least concerned most concerned

Product/process design

Product/service design is reviewed before the product/ service is produced

1 2 3 4 5

least concerned most concerned

Clarity of product/service specifications

1 2 3 4 5

least concerned most concerned

Clarity of product/service procedures

1 2 3 4 5

least concerned most concerned

Implementation/producibility is considered in the product/service design process

1 2 3 4 5

least concerned most concerned

Process design minimizes the chances of employee errors

1 2 3 4 5

least concerned most concerned

Supplier quality

Suppliers are selected based on quality rather than price

1 2 3 4 5

least concerned most concerned

Your company relies on a few dependable suppliers

1 2 3 4 5

least concerned most concerned

Your company provides technical assistance to your suppliers

1 2 3 4 5

least concerned most concerned

The supplier is involved in your product development process

1 2 3 4 5

least concerned most concerned

You build long-term relationships with your suppliers

1 2 3 4 5

least concerned most concerned

Clarity of specifications provided to your suppliers

1 2 3 4 5

least concerned most concerned

Customer orientation

Your company /division is totally committed to creating satisfied customers

1 2 3 4 5

least concerned most concerned

Your company's goal exceed customers' expectations

1 2 3 4 5

least concerned most concerned

Executives demonstrate their actions that customer satisfaction is important

1 2 3 4 5

least concerned most concerned

Employees know what customers love about your company's products or services

1 2 3 4 5

least concerned most concerned

Information from customers is used in designing company's products and services

1 2 3 4 5

least concerned most concerned

Top management frequently contact customers

1 2 3 4 5

least concerned most concerned

Customers' complaints are resolved

1 2 3 4 5

least concerned most concerned

Employees are encouraged to satisfy customers

1 2 3 4 5

least concerned most concerned

Organizational Culture

How much does your organization encourage the culture practices below? You are at the third page of the questionnaire. Thank you for your patience. It is nearly done.

Participation, open discussion

1 2 3 4 5

minimal encouragement highly encouraged

Empowerment of employees to act.

1 2 3 4 5

minimal encouragement highly encouraged

Assessing employee concerns and ideas.

1 2 3 4 5

minimal encouragement highly encouraged

Human relations, teamwork, cohesion.

1 2 3 4 5

minimal encouragement highly encouraged

Flexibility, decentralization. *

1 2 3 4 5

minimal encouragement highly encouraged

Expansion, growth, and development.

1 2 3 4 5

minimal encouragement highly encouraged

Innovation and change.

1 2 3 4 5

minimal encouragement highly encouraged

Creative problem-solving processes.

1 2 3 4 5

minimal encouragement highly encouraged

Routinization, formalization and structure.

1 2 3 4 5

minimal encouragement highly encouraged

Stability, continuity, order.

1 2 3 4 5

minimal encouragement highly encouraged

Predictable performance outcomes

1 2 3 4 5

minimal encouragement highly encouraged

Task focus, accomplishment, goal achievement

1 2 3 4 5

minimal encouragement highly encouraged

Direction, objective setting, goal clarity.

1 2 3 4 5

minimal encouragement highly encouraged

Efficiency, productivity, profitability.

1 2 3 4 5

minimal encouragement highly encouraged

Outcome excellence, quality. *

1 2 3 4 5

minimal encouragement highly encouraged

Organizational Performance

How much does your organization encourage the practices below: (You are at the forth page of the questionnaire, do stay tune, Thank you)

Process quality

We design processes in our firm to be “fool-proof” (preventive oriented)

1 2 3 4 5

minimal encouragement highly encouraged

We have clear, standardized and documented process instructions which are well understood by our employees.

1 2 3 4 5

minimal encouragement highly encouraged

We make an extensive use of statistical techniques (e.g. SPC) to improve the processes and to reduce variation.

1 2 3 4 5

minimal encouragement highly encouraged

Product quality

How do you compare the industry's performance to your company's?

The performance of our products

1 2 3 4 5

worst in industry best in industry

Reliability of our products

1 2 3 4 5

worst in industry best in industry

Durability of our products

1 2 3 4 5

worst in industry best in industry

Conformance to specifications of our products

1 2 3 4 5

worst in industry best in industry

Product innovation

The level of newness (novelty) of our firm's new products

1 2 3 4 5

worst in industry best in industry

The speed of new product development process

1 2 3 4 5

worst in industry best in industry

The number of new products our firm has introduced to the market

1 2 3 4 5

worst in industry best in industry

The number of our new products that is first-to-market (early market entrants)

1 2 3 4 5

worst in industry best in industry

Process innovation

The technological competitiveness of our company

1 2 3 4 5

worst in industry best in industry

The speed with which we adopt the latest technological innovations in our processes

1 2 3 4 5

worst in industry best in industry

The updated-ness or novelty of the technology used in our processes

1 2 3 4 5

worst in industry best in industry

The rate of change in our processes, techniques and technology

1 2 3 4 5

worst in industry best in industry

Demography

This is the last page of the questionnaire. Thank you for your patience. Please allow us to sort you into categories. Thank you.

Core business of your company? *(alphabetical order)

How long had your company been in business? *

- < 5 years
- 6 to 10 years
- 10 to 15 years
- 16 to 20 years
- More than 20 years

What was your company's annual sale turnover (RM) for last year? *

- < 250,000
- 250,000 - < 10 million
- 10 million – 25 million
- >25 million

How many employees does your company have? *

- < 5
- 5 to 50
- 51 – 150
- 151 – 300
- > 300

Is your company ISO/ quality award certified? *

- Yes

No

Your company ownership is : *