

EXAMINING THE RELATIONAL BENEFITS OF IMPROVED INTERFIRM INFORMATION PROCESSING CAPABILITY IN BUYER–SUPPLIER DYADS

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Appendix A

Measurement Model: Factor Loading, Cronbach's Alpha, Composite Reliability and AVE

Construct Indicators	Loading	Cronbach's Alpha	Composite Reliability	AVE
IT-enabled planning and control (the extent to which your primary supplier and your company utilize interorganizational information systems and Internet applications to) ^a		.963	.969	.794
(ITP&C1) Trace purchasing order	.884(40.000***)			
(ITP&C2) Exchange price and market information periodically	.856(32.853***)			
(ITP&C3) Quality control on the purchased goods	.900(40.607***)			
(ITP&C4) Cooperate on new material and component testing	.913(47.635***)			
(ITP&C5) Deal with complains and solve conflicts	.891(44.853***)			
(ITP&C6) Coordinate production plan	.911(52.775***)			
(ITP&C7) Coordinate inventory	.897(45.209***)			
(ITP&C8) Coordinate logistics	.874(31.796***)			

Construct Indicators	Loading	Cronbach's Alpha	Composite Reliability	AVE
Normative contracts (the extent to which your primary supplier and your company have mutual understanding of and utilize the following shared norms to regulate each other's trading behavior) ^c		.929	.940	.612
Role assignment ^a		.947	.962	.894
(NC_R1) Role play	.886(16.204***)			
(NC_R2) Responsibility	.981(49.915***)			
(NC_R3) Behavior	.966(31.596***)			
Adjustment ^a		.865	.931	.872
(NC_A1) Dealing with unexpected events	.894(10.787***)			
(NC_A2) Dealing with conflicts	.970(28.004***)			
Monitoring procedures ^a		.786	.902	.822
(NC_M1) Manners of performance evaluation	.937(11.916***)			
(NC_M2) SOP of Production	.874(9.078***)			
Incentive system ^a		.954	.939	.837
(NC_I1) Purchasing price	.867(12.286***)			
(NC_I2) Purchasing volume	.876(10.233***)			
(NC_I3) Purchasing duration	.994(43.323***)			
Supplier's relation-specific business process investments (the extent to which your primary supplier has made the following reciprocal investments to your company) ^a		.928	.946	.780
(SRBPI1) Adjustments of manufacturing process to fit your company's specification of technology and standard	.819(22.966***)			
(SRBPI2) Business processes reengineering to improve the performance of the trading	.885(40.787***)			
(SRBPI3) Significant time and money on training to work with your company	.903(44.476***)			
(SRBPI4) Significant time and money on product and process qualification approved by your company	.927(64.662***)			
(SRBPI5) Significant time and money on timeliness of the trading	.875(33.187***)			
Modification flexibility (the extent to which you agree the following statements about the interactions between your company and your primary supplier) ^b		.866	.902	.605
(MF1) Mutually adjust in response to environmental changes	.738(13.540***)			
(MF2) Flexibly deal with problems which are hard to attribute responsibility	.741(13.770***)			
(MF3) Flexibly respond to each other's requests	.834(27.031***)			
(MF4) Properly and satisfactorily resolve unexpected problems	.777(13.214***)			
(MF5) Find alternative ways instead of stick to original agreements to deal with unexpected problems	.764(15.020***)			
(MF6) Attempt to achieve compromises when conflicts arise	.807(17.089***)			
Buyer's manufacturing goal achievement (the extent of improvements in the following aspects after launching and operation of the interorganizational information systems and Internet applications) ^c		.939	.946	.559

Construct Indicators	Loading	Cronbach's Alpha	Composite Reliability	AVE
Quality^a		.897	.922	.703
(BMGA_Q1) Product features	.778(10.561***)			
(BMGA_Q2) Product reliability	.821(10.363***)			
(BMGA_Q3) Product durability	.874(17.876***)			
(BMGA_Q4) Product performance	.859(17.603***)			
(BMGA_Q5) Conformance to the product specification	.853(13.905***)			
Dependability^a		.892	.927	.809
(BMGA_D1) Speed of delivery	.876(22.235***)			
(BMGA_D2) Reliability of delivery	.922(30.205***)			
(BMGA_D3) Lead time	.899(21.296***)			
Cost^a		.866	.912	.776
(BMGA_C1) Inventory costs	.776(13.354***)			
(BMGA_C2) Shortage costs	.957(43.651***)			
(BMGA_C3) Costs of defected goods	.899(24.891***)			
Manufacturing Flexibility^a		.920	.948	.860
(BMGA_M1) Process flexibility	.916(20.896***)			
(BMGA_M2) Volume flexibility	.931(27.083***)			
(BMGA_M3) Mix flexibility	.933(27.400***)			
Environmental uncertainty (the extent to which the unpredictability of) ^b		.833	.900	.750
(EU1) the purchasing volume from your primary supplier	.845(26.238***)			
(EU2) product specification or features from your primary supplier	.890(44.852***)			
(EU3) service supports required from your primary supplier	.861(35.182***)			
Buyer power (the extent to which you agree the following statements) ^a		.603	.791	.558
(BP1) The business area that your company belongs to is an important market for your primary supplier	.715(17.175***)			
(BP2) Your primary supplier requires suggestions about product specification and design from your company	.733(17.126***)			
(BP3) Your primary supplier requires relevant market information from your company	.790(25.478***)			

Note: ***indicates significant at $p < 0.01$ level

^aFormative measure

^bReflective measure

^cSecond-order construct

Appendix B

Cross-Factor Loading

Items	ITP&C	NC_R	NC_A	NC_M	NC_I	SRBPI	MF	BMGA_Q	BMGA_D	BMGA_C	BMGA_M	ENV	BP
ITP&C1	.884 **	.160	.174*	.246**	.166*	.335**	.149	.226**	.297**	.233**	.169*	.001	.274**
ITP&C2	.856 **	.134	.141	.232**	.131	.267**	.145	.229**	.318**	.252**	.167*	.011	.212**
ITP&C3	.900 **	.146	.192*	.333**	.151	.297**	.182*	.214**	.249**	.192*	.150	-.055	.267**
ITP&C4	.913 **	.153	.173*	.298**	.198*	.391**	.178*	.282**	.306**	.260**	.238**	.011	.284**
ITP&C5	.892 **	.160	.201*	.231**	.216**	.363**	.220**	.202*	.233**	.214*	.155	-.034	.315**
ITP&C6	.912 **	.154	.150	.338**	.206*	.287**	.235**	.150	.282**	.279**	.214*	-.068	.296**
ITP&C7	.898 **	.210*	.297**	.371**	.241**	.355**	.239**	.257**	.287**	.279**	.148	-.053	.346**
ITP&C8	.874 **	.242**	.268**	.373**	.288**	.361**	.277**	.168*	.252**	.188*	.149	-.075	.338**
NC_R1	.106	.887 **	.634**	.427**	.668**	.190*	.504**	.122	.125	.079	.113	-.093	.295**
NC_R2	.196*	.982 **	.722**	.537**	.662**	.206**	.509**	.140	.154	.109	.161	-.102	.244**
NC_R3	.192*	.966 **	.690**	.548**	.655**	.187**	.485**	.187*	.193*	.153	.184*	-.094	.249**
NC_A1	.125	.646**	.895 **	.500**	.515**	.129	.361**	.262**	.199*	.214*	.194*	-.041	.137
NC_A2	.258**	.705**	.971 **	.460**	.627**	.220**	.433**	.245**	.209*	.257**	.203*	-.045	.187*
NC_M1	.301**	.519**	.467**	.938 **	.459**	.211*	.345**	.154	.251**	.146	.153	-.095	.207*
NC_M2	.321**	.471**	.445**	.875 **	.432**	.344**	.394**	.186*	.240**	.202*	.283**	-.005	.307*
NC_I1	.156	.612**	.499**	.452**	.868 **	.179*	.415**	.016	.170*	.062	.223**	-.040	.088
NC_I2	.156	.642**	.496**	.439**	.876 **	.165*	.404**	.035	.139	.052	.219**	-.082	.105
NC_I3	.222**	.687**	.617**	.485**	.994 **	.247**	.506**	.131	.241**	.150	.260**	-.064	.192*
SRBPI1	.261**	.127	.120	.239**	.193*	.820 **	.250**	.251**	.270**	.185*	.278**	.095	.379**
SRBPI2	.354**	.160	.190*	.297**	.187*	.886 **	.326**	.360**	.289**	.216**	.291**	.153	.413**
SRBPI3	.318**	.216**	.187*	.255**	.252**	.903 **	.288**	.266**	.225**	.157	.198*	.136	.447**
SRBPI4	.315**	.229**	.206*	.250**	.292**	.927 **	.337**	.247**	.235**	.161	.251**	.111	.467**
SRBPI5	.396**	.168*	.176*	.250**	.192*	.876 **	.359**	.392**	.319**	.265**	.297**	.112	.394**
MF1	.133	.323**	.280**	.204*	.314**	.212*	.739 **	.212*	.229**	.211*	.184*	-.190*	.215**
MF2	.146	.329**	.213*	.223**	.413**	.257**	.742 **	.121	.174*	.130	.265**	-.119	.218**
MF3	.215**	.389**	.331**	.269**	.335**	.270**	.835 **	.269**	.295**	.222**	.329**	-.117	.270**
MF4	.280**	.409**	.471**	.422**	.433**	.378**	.777 **	.374**	.377**	.344**	.370**	-.104	.338**
MF5	.174*	.388**	.339**	.318**	.371**	.197*	.764 **	.256**	.247**	.139	.260**	-.089	.225**
MF6	.111	.569**	.374**	.427**	.526**	.332**	.807 **	.223**	.279**	.141	.202*	-.235**	.365**
BMGA_Q1	.213*	.067	.200*	.018	.055	.282**	.222**	.779 **	.569**	.492**	.388**	-.039	.257**
BMGA_Q2	.145	.185*	.217**	.215**	.142	.206*	.323**	.822 **	.588**	.510**	.433**	-.130	.201*
BMGA_Q3	.182*	.176*	.281**	.244**	.159	.304**	.281**	.875 **	.644**	.518**	.468**	-.035	.275**
BMGA_Q4	.285**	.139	.282**	.149	.123	.374**	.278**	.860 **	.628**	.494**	.481**	.001	.256**
BMGA_Q5	.216**	.107	.170*	.113	.068	.295**	.226**	.854 **	.636**	.479**	.477**	-.029	.291**
BMGA_D1	.316**	.133	.184*	.242**	.210*	.211*	.271**	.641**	.876 **	.591**	.525**	.110	.172*
BMGA_D2	.323**	.167*	.190*	.271**	.252**	.253**	.333**	.691**	.922 **	.625**	.532**	-.039	.208*
BMGA_D3	.231**	.151	.209*	.218**	.206*	.316**	.302**	.644**	.899 **	.601**	.559**	-.029	.211*
BMGA_C1	.210*	.058	.104	.193*	.136	.133	.139	.380**	.518**	.776 **	.585**	-.007	.078
BMGA_C2	.249**	.102	.255**	.162	.121	.199*	.205*	.578**	.640**	.958 **	.610**	-.042	.073
BMGA_C3	.246**	.159	.256**	.170*	.170*	.237**	.308*	.545**	.615**	.899 **	.554**	-.031	.105
BMGA_M1	.190*	.130	.172*	.220**	.219**	.285**	.370**	.470**	.539**	.625**	.917 **	-.043	.126
BMGA_M2	.131	.164	.225**	.184*	.278**	.275**	.311**	.492**	.550**	.618**	.932 **	-.067	.094
BMGA_M3	.204*	.181*	.200*	.219**	.247**	.268**	.277**	.536**	.573**	.544**	.933 **	-.038	.128
EU1	-.159	-.063	-.116	-.093	-.108	.078	-.071	-.020	-.000	.018	-.024	.679 **	.102

Items	ITP&C	NC_R	NC_A	NC_M	NC_I	SRBPI	MF	BMGA_Q	BMGA_D	BMGA_C	BMGA_M	ENV	BP
EU2	.062	-.104	.007	.028	-.031	.161 [*]	-.179 [*]	-.024	.042	-.003	.025	.891^{**}	.035
EU3	-.023	-.077	-.021	-.101	-.007	.088	-.181	-.089	-.089	-.096	-.126	.842^{**}	-.038
BP1	.108	.311 ^{**}	.275 ^{**}	.197 [*]	.214 ^{**}	.255 ^{**}	.328 ^{**}	.247 [*]	.211 [*]	.002	.079	-.114	.716^{**}
BP2	.294 ^{**}	.111	.005	.276 ^{**}	.057	.446 ^{**}	.172 [*]	.138	.061	.007	.068	.148	.734^{**}
BP3	.331 ^{**}	.164 [*]	.121	.138	.156	.366 ^{**}	.286 ^{**}	.303 ^{**}	.234 ^{**}	.201 [*]	.139	.045	.790^{**}

Notes: **p < 0.001; *p < 0.05, two-tail test

ITP&C: IT-enabled planning and control

NC_R: Role assignment

NC_A: Adjustment

NC_M: Monitoring procedures

NC_I: Incentive system

SRBPI: Supplier's relation-specific business process investments

MF: Modification flexibility

BMGA_Q: Quality

BMGA_D: Delivery

BMGA_C: Cost

BMGA_M: Manufacturing flexibility,

EU: Environmental uncertainty

BP: Buyer power