

**Channel Negotiations with Information Asymmetries:
Contingent Influences of Communication and Trustworthiness Reputations**

Joydeep Srivastava and Dipankar Chakravarti

Web Appendix

THE SEQUENTIAL BARGAINING MODEL

The Grossman and Perry (1986) model provides the normative backdrop for the three experiments reported here. In our adaptation, a manufacturer and a distributor negotiate a new product's wholesale price, w . Manufacturer's product cost, c , is common knowledge, whereas distributor (being close to the market) knows p , the end user's reservation price. Manufacturer's belief about p is given by a distribution, $F(p)$, with support $[p_l, p_h]$ and $p_l \geq c$. $F(p)$ is common knowledge. The manufacturer and distributor negotiate w , ($c \leq w \leq p$), making alternating offers in discrete time ($t = 1, 2, 3, \dots$). At $t = 1$, the manufacturer opens with an offer, w_t , that the distributor can either accept or reject. If the distributor accepts, negotiation ends at $t = 1$. If the distributor rejects the offer, s/he makes a counteroffer at $t = 2$. The sequence repeats until the parties agree or call off the negotiation. The surplus (the value of an agreement) shrinks each period by a symmetric discount factor δ , ($0 < \delta < 1$). An agreement in t (at a price w_t) yields respective payoffs: $U_M = \delta^{t-1} (w_t - c)$ and $U_D = \delta^{t-1} (p - w_t)$. The associated bargaining efficiency is defined as $(U_M + U_D)/(p - c) = (\delta^{t-1})$.

Srivastava, Chakravarti, and Rapoport (2000) describe the sequential equilibrium solution under information asymmetry. The discount factor (δ) drives the solution. The intuition is that a distributor with a low p derives only a small surplus from manufacturer's offer and signals this low valuation with a counteroffer that delays agreement. The distributor's willingness to endure

a costly delay credibly conveys a low p . As $\delta \rightarrow 1$, the lost surplus is smaller, delay is less diagnostic, and a high value distributor can mimic one with low value. Yet, as Srivastava, Chakravarti, and Rapoport (2000) showed, this signaling mechanism (offers and counteroffers only) often breaks down, leading to inefficient bargaining.

PRETEST OF MESSAGE SETS USED IN EXPERIMENTS 1 AND 3

A total of 24 pretest participants (18 male, 6 female) received a brief case scenario as context and rated the statements (both manufacturer and distributor versions) on nine characteristics (Table A1) using 7-point scales (1 = Disagree; 7 = Agree). The bolded means (Table 1) show that these participants perceived the messages as intended. Thus, message I1 carries quality and cost arguments (informational), message R1 conveys cooperation, mutuality and long-term orientation (relational) and message C1 is seen as threatening, other-demeaning and self-aggrandizing (coercive). Note that the messages were all costless, contained no binding economic content, but varied in tone. Messages I1 and I3 did not mention price and quality respectively and received low ratings on these dimensions. However, they did convey information on other dimensions. Some informational messages (I2 and I3) also had relatively high relational ratings. A principle component analysis of the ratings showed that three factors explained 90% of the variance across messages and items loaded on corresponding informational, relational, and coercive factors.

Table W1
Mean Message Ratings

Message #	<u>Informational</u>			<u>Relational</u>			<u>Coercive</u>		
	I1	I2	I3	R1	R2	R3	C1	C2	C3
Reflects quality info	5.8	4.8	2.6	2.5	2.3	2.2	2.5	2.7	1.9
Reflects cost inform	5.9	4.6	5.1	2.5	2.2	1.8	2.4	2.0	1.7
Reflects res. price info	2.8	5.1	5.4	3.0	2.6	2.2	2.8	2.5	2.0
Shows cooperation	3.5	4.2	4.4	6.0	5.8	5.8	2.2	1.7	1.9
Shows mutuality	3.5	4.3	4.3	6.3	6.4	6.4	2.4	2.0	2.1
Shows long term orientation	3.1	4.0	4.1	6.1	6.2	6.4	2.1	1.9	1.7
Threatening	2.8	2.2	3.0	1.9	2.1	1.8	6.2	6.5	6.6
Other-demeaning	2.7	2.4	2.5	2.2	2.4	1.6	5.2	6.7	6.4
Self-aggrandizing	3.8	2.8	2.4	2.2	2.0	2.3	5.4	6.5	5.3