

Industrial & Systems Engineering Seminar

Wednesday, November 17, 2010

3:15 PM – Refreshments before the seminar

3:30 PM – Graduate Seminar

Mechanical Engineering Room 4125 A & B



Durable Products, Time Inconsistency and Lock-In

Professor Stephen M. Gilbert

Department of Information, Risk, and Operations Management
McCombs School of Business
The University of Texas at Austin

Many durable products cannot be used without a contingent consumable product, e.g. printers require ink, iPods require songs, razors require blades, etc. For such products, manufacturers may be able to lock-in consumers by making their products incompatible with consumables that are produced by other firms. We examine the effectiveness of such a strategy in the presence of strategic consumers who anticipate the future prices of both the durable product and the contingent consumable. Under a lock-in strategy, the manufacturer has pricing power over the contingent consumable which she can use to extract additional rents from higher valuation consumers. On the other hand, such pricing power subjects consumers to the possibility of exploitation, i.e. being held-up, after they purchase the durable. We develop a simple model of how consumers derive decreasing marginal utility from the use of a durable and show that the extent to which a manufacturer should pursue a lock-in strategy depends critically upon the level of heterogeneity among consumers. When consumers are homogeneous, then the manufacturer is best off providing access to competitively supplied consumables to eliminate hold-up. On the other hand, as consumers become increasingly heterogeneous, then lock-in is a preferred strategy. In a numerical study, we demonstrate that this insight continues to hold when consumers are worried not only about future consumables prices but also about the manufacturer's incentive to sell the durable to consumers with lower valuations over time.

BIO: Stephen M. Gilbert is the Sam P. Woodson, Jr. Centennial Memorial Professor in Business at the McCombs School of Business at the University of Texas at Austin. He holds a Ph.D. in Operations Management from the Sloan School of Business at M.I.T. His current research focuses on issues of coordination in supply chains especially in the presence of strategic consumers. His publications have appeared in *Operations Research*, *Management Science*, *Marketing Science*, *IIE Transactions*, *European Journal of Operational Research*, and elsewhere. Professor Gilbert currently serves as an Associate Editor for both *Management Science* and *Manufacturing and Service Operations Management*, and as a Senior Editor for *Production and Operations Management*. He is also the Vice President / President Elect for the M&SOM Society of INFORMS.

FOR MORE INFORMATION ON PROFESSOR GILBERT'S RESEARCH, please visit:

<http://www.mcombs.utexas.edu/faculty/man/gilberts/>