

MARKETING COLLOQUIA

FALL 2016

Daniel McCarthy

Doctoral Candidate, Wharton, Statistics
University of Pennsylvania

Wednesday, September 7, 2016

Where: 741 JMHH

When: 12:00 PM to 1:20 PM

VALUING NON-CONTRACTUAL FIRMS USING COMMON CUSTOMER METRICS

ABSTRACT: Few non-contractual firms publicly disclose customer metrics, and there is no well-validated procedure to infer overall company valuations from the varied metrics that are disclosed. One of the biggest challenges is the fact that non-contractual businesses are characterized by latent attrition, making it hard to create and convey suitable measures (i.e., to replace the conventional contractual notion of a "retention rate" with more relevant metrics, and to embed these metrics into the overall valuation equation). Another challenge is that common customer metrics are aggregated across customers and over time, and are often left-censored, in contrast to a situation where all granular data is observed. We propose a novel methodology based upon "indirect inference," a well-established generalization of generalized method of moments procedures, previously unused in marketing. We apply this methodology to highlight the usefulness of common customer metrics, estimating a latent variable model for customer acquisition, repeat purchasing, and spend with them. We show which collections of metrics are "best" (have the highest predictive validity) when a constraint is imposed upon the number of disclosures that may be observed by the modeler. We apply this methodology to transaction log data from the largest subsidiary of an e-commerce retailer, valuing the subsidiary as a whole, decomposing this valuation into existing and yet-to-be-acquired customers, and analyzing the profitability of newly acquired customers.