



## DO&IT Seminar Series

**Speaker:** Thomas Lee, Assistant Professor  
The Wharton School, U Penn.

**Date:** Friday, November 21, 2008

**Time:** 2-3:30 pm

**Location:** VMH 1335

**Title:** Learning Experiential Knowledge

### Abstract

Experiential knowledge involves learning from the experiences of others. In this talk, I will discuss two approaches for learning from the experiences captured within user-generated content. First, borrowing from the new product development literature, I present a supervised approach for information extraction to learn user "needs" from online product reviews. I evaluate the approach in two contexts. In new product development, identifying user needs is the first step in concept design and market segmentation. I compare traditional approaches for acquiring user needs to automated analysis of online reviews. In a second context, needs-based analyses enable new models for online shopping. E-Retailers typically sort reviews by brand and model, focusing on consumers who have already narrowed their selections to a few specific brands and models. Needs-based analyses of reviews enable uninformed consumers to shop based upon what they know: their "needs."

Facilitating decision-making by uninformed consumers motivates a second approach to experiential knowledge. In an environment of increasing medical sub-specialization and decreasing time per physician-visit, patients are required to assume greater responsibility for managing their own care. In collaboration with the Foundation for Informed Medical Decision Making, we extend topic-extraction algorithms with parameters for message depth and authority measures to learn from online patient forums. Learning from others helps patients discover questions to ask their physicians. We evaluate the approach in the context of a pilot study on prostate cancer forums, comparing automated analyses to expert decision guides.

### Bio

Thomas Lee current research interests focus on experiential knowledge: learning from the experiences of others. Specifically, he develops techniques to automatically learn from user-generated content such as consumer product reviews and Web forums. From product reviews, he learns customer "needs" and preferred attributes for use in market segmentation and new product development. From health forums, he helps newly diagnosed patients make more informed decisions



by identifying and learning from patients facing similar circumstances. He has taught undergraduate, MBA, and PhD level courses on databases and co-taught an MBA elective on the application of information technologies to operations management strategy. He currently teaches the core undergraduate course on decision modeling. He is a recipient of the David W. Hauck Award for Excellence in Undergraduate Teaching at the Wharton School. The award is granted to only one member of the junior faculty every year. He has published in Decision Support Systems, Information Systems, ACM Conference on Information and Knowledge Management, and the Workshop on Information Technology and Systems.