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Points for thought/discussion for “To Explain or To Predict?” Event (Tel Aviv University, July 9, 2012)

For background reading: [To Explain or To Predict?](#) (*Statistical Science*, 2010) -- the full paper is available at the bottom of that page.

If you are familiar with social sciences research, here is another paper (aimed at a social sciences audience): [Predictive Analytics in Information Systems Research](#) (*MIS Quarterly*, 2011)

1. In your field of research, how common is the use of statistical modeling for Causal-Explanatory modeling? For Descriptive modeling (estimating correlations, quantifying effects)? For Predictive modeling (predicting individual outcomes)?
2. In your field of research, what does the term “predict” mean? what does “explain” mean?
3. Consider a research study that you have conducted which relies on statistical modeling [please see the list below]. If it is explanatory (predictive) in nature:
 - What is a predictive (explanatory) goal of interest that can potentially be answered with such data? Let’s call this the “alternate goal”
 - How would a model for the alternate goal be used for furthering science? and in practice?
 - Would the data used in your study be useful for the predictive (explanatory) goal? For example, are the measured variables available at the time of prediction? Are there variables that you omitted from your study but can be used for the alternate goal?
 - What statistical models/methods did you consider? Would you consider other models/methods for the alternate goal?
 - What performance measures did you use in your research? What would you need to measure for the alternate goal?
4. What type of knowledge do you feel you (and your field) are missing in order to venture into prediction (or explanation)?
5. How would the addition of statistical modeling for causal (or predictive) goals advance your field?

Searching through your websites, I found the following studies that look like great discussion pieces (I chose recent, news-covered studies, which I found engaging, short and very readable). We can circulate these to the audience in advance along with a synopsis of the event. Feel free to suggest a different study (you know your work best...)

- Prof. Uri Goldbourt’s “[Repetitive thinking as a psychological cognitive style in midlife is associated with lower risk for dementia three decades later](#)” (*Dement Geriatr Cogn Disord.*, 2009)
- Prof. Irad Ben-Gal’s “[Tracking crime in real time](#)” (*ScienceDaily.com*, Aug 2011)
- Prof. Shlomo Havlin’s “[Using the friendship paradox to sample a social network](#)” (*Physics Today*,

Nov 2010)