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# *Balancing Prediction and Recommendation Accuracy:*

## *Hierarchical Latent Factors for Preference Data*

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- The recommendation problem has been traditionally interpreted as a missing value prediction problem (matrix completion, RMSE)
- An alternative and more direct way to measure the effectiveness of the RS is to evaluate the accuracy of the recommendation list (Precision & Recall)
- Recent works have shown that there is no monotonic relation between error metrics and accuracy metrics
- Probabilistic Topic modeling techniques have shown significant advantages over traditional deterministic approaches, in terms of modeling and predictive power

# Bayesian Hierarchical Model for Preference Data

- Combines the advantages of both hierarchical modeling and item selection, realizing a compromise between prediction and recommendation accuracy
- Hierarchical modeling: topics depend on user communities
- Users who experience the same items and tend to adopt the same rating pattern are gathered into communities

