

# Non-Compensatory Psychological Models for Recommender Systems

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## Abstract

The study of consumer psychology reveals two categories of procedures used by consumers to make consumption related choices: compensatory rules and non-compensatory rules. Existing models assume the consumers follow the compensatory rules, which are to make decisions based on a weighted or summated score over different aspects. Our main contribution in this paper is to improve performance of recommender systems by adopting non-compensatory rules to make ranking decisions. We present non-compensatory versions for three most commonly adopted ranking models in this area, i.e. BPR, BTL and SVD++. We show that, the non-compensatory versions all outperform their original models on a wide range of real data sets.

## Introduction

## Related Work

## Ranking Models for Recommendations

## Non-Compensatory Ranking Models for Recommendations

## Experiments