Drug Design Recommendation

commendo research & consulting GmbH

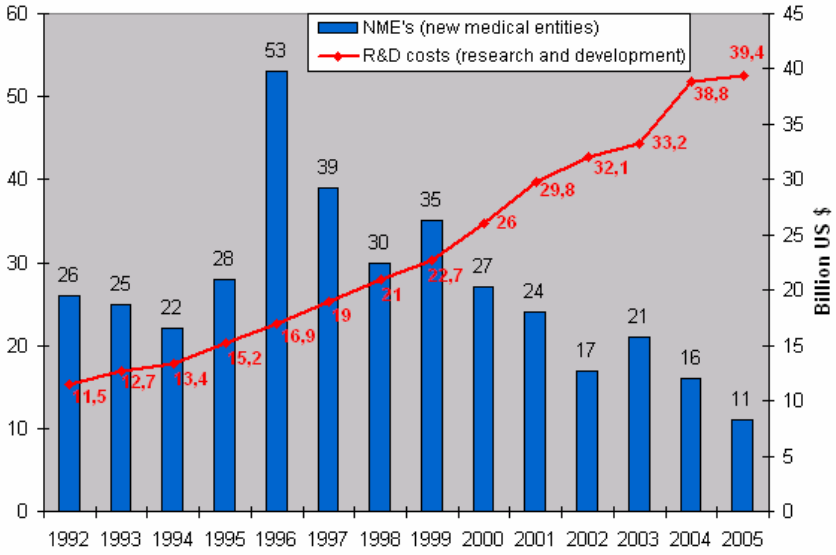
Project Idea / Main Targets

- Recommender technology to optimize the drug design process
  - Speeding up development
  - Highly customized drugs
  - Minimization of adverse reactions
  - Increasing probability to pass clinical tests

- Discover harmful drug combinations to minimize side effects

Business Opportunity

- Market: Pharmaceutical Industry
- Long term success by accelerating research in drug design
- Reduce pharmaceutical development costs



Source: Burrill & Company

>800 mio. $ for bringing one drug on the market

95% rejection rate

Data Relationship

Recommender analogy:

User ↔ Item

Effect ↔ Substance

	Sub. 1	Sub. 2	Sub. 3	Sub. 4	Sub. 5	Sub. 6	Sub. 7	Sub. 8	Sub. 9	Sub. 10	Sub. 11	Sub. 12	Sub. 13	Sub. 14	Sub. 15
Effect 0	0	1		1			0	0		1				0	1
Effect 1			1			0	0					1			
Effect 2		0			1	1					0		0		
Effect 3			0	1				1	1	0					0

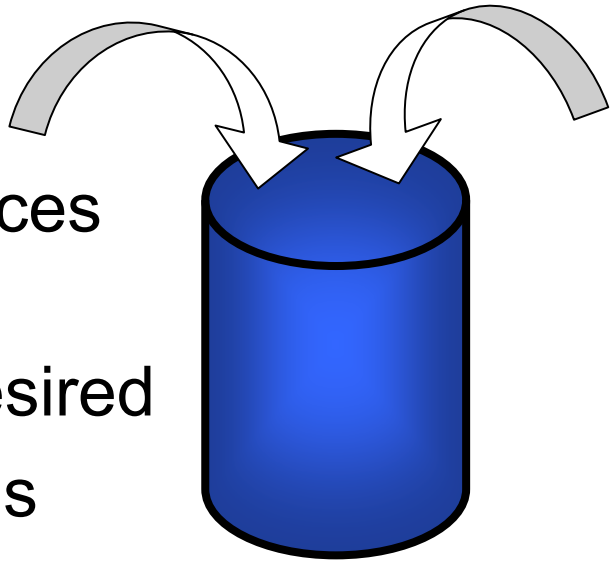
Accurate, customized recommender models can be applied

Holistic Model

- Integration of all data
  - Considering: substances & effects
  - From all drug development stages

- Use of recommender algorithms to predict unknown effects of substances

- Identification of substances with desired effects to develop customized drugs



The Team & the Netflix Prize

Georg Preßler, Andreas Töscher, Michael Jahrer, Michael Schrotter

Leading single team at Netflix Prize competition

Thank you for your attention

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