Towards Automated Trading on the Semantic Web

A Stock Recommendations Aggregation System
Goal of the thesis:

What is a good method to generate new advices?

Aggregation of advices issued by brokers
Methodology

Advice

Knowledge base

New Advice

Methodology

Natural Language Processing
Two methods to calculate new advice:
`standard' - one company
`advanced' – within a specific sector
Applications

Two main applications:
Information Extractor (IE)
Advice Application (AA)

Uses:
Knowledge based on TOWL
Applications - TOWL

Semantic Web
Model and store information
Relations between data
Ability to do reasoning
Model with time constraints
Applications - TOWL

Company Information:

- Name
- Quote Symbol
- Identification Numbers
Applications - TOWL

Company Information:
Google Inc.
Quote Symbol: GOOG
ISIN: US38259P5089
GICS: 45101010
Introduction
Methodology
Applications
- TOWL
- IE
- AA
Results
Conclusions

Applications - TOWL

Advices:
Buy, hold or sell

Length of Advice
Broker
Company
Pricetarget
Gather advices

2007-5-25 analyst Nico van Geest of Keijser Capital issues a buy recommendation ...

Natural Language Processing

Add to the knowledge base
Applications - AA

Advices and companies from knowledge base

Measure performance per broker

Calculate new advice
Applications - AA

- TOWL
- IE
- AA

Results

Conclusions
Applications - AA

- TOWL
- IE
- AA

Results
Conclusions
Results

Returns for 1 company dispersed.
On average 1%-3% better than exchange after 1 week, after 6 months returns more than 10%.
Results

Returns buy advices, no exchange correction, all exchanges, `Advanced' method

![Graph showing returns over time]
Conclusions

Exchange can be beaten by aggregating advices

Aggregating advices when taking the industry in account give better returns.
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