

# Towards Automated Trading on the Semantic Web

## A Stock Recommendations Aggregation System



# Introduction

Introduction

Methodology

Application

Results

Conclusions

Remy Stibbe  
Master Thesis  
15 minutes



# Introduction

Introduction

Methodology

Application

Results

Conclusions

Goal of the thesis:

What is a good method to generate new advices?

Aggregation of advices issued by brokers

TOWARDS AUTOMATED TRADING ON THE  
SEMANTIC WEB  
A STOCK RECOMMENDATIONS AGGREGATION SYSTEM

M.R. SFIBRE

293768

SUPERVISORS

F. M. ...

V. ...



MASTER THESIS INFORMATICS AND ECONOMICS

ECONOMETRIC INSTITUTE

ERASMUS SCHOOL OF ECONOMICS

ERASMUS UNIVERSITY ROTTERDAM

# Methodology

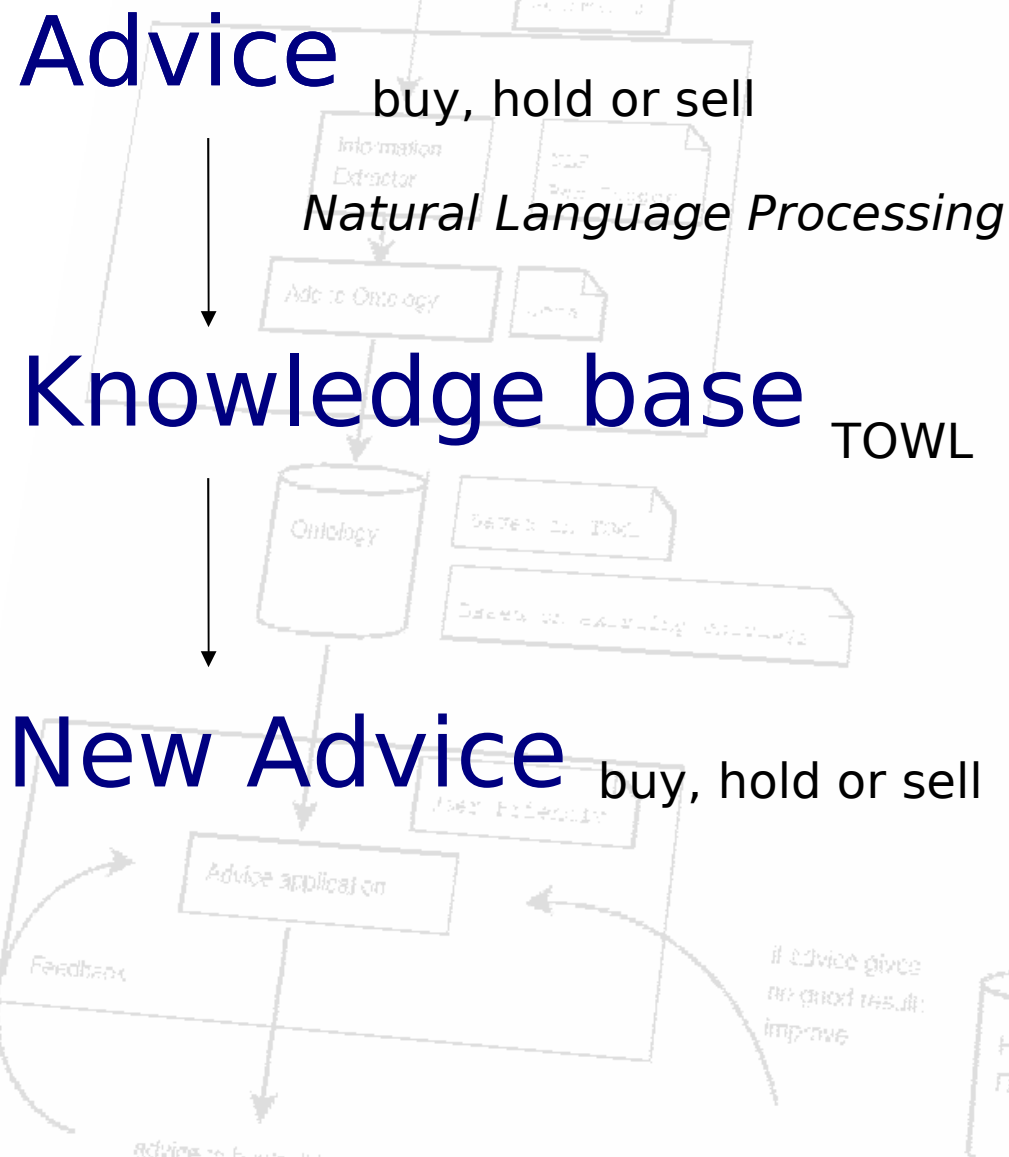
Introduction

**Methodology**

Application

Results

Conclusions



# Methodology

Introduction

Methodology

Application

Results

Conclusions

Two methods to calculate new advice:

`standard' - one company

`advanced' – within a

specific sector

# Applications

Introduction  
Methodology  
**Applications**  
- TOWL  
- IE  
- AA  
Results  
Conclusions

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

Uses:

Knowledge based on TOWL

# Applications - TOWL

- Introduction
- Methodology
- Applications
- TOWL
- IE
- AA
- Results
- Conclusions

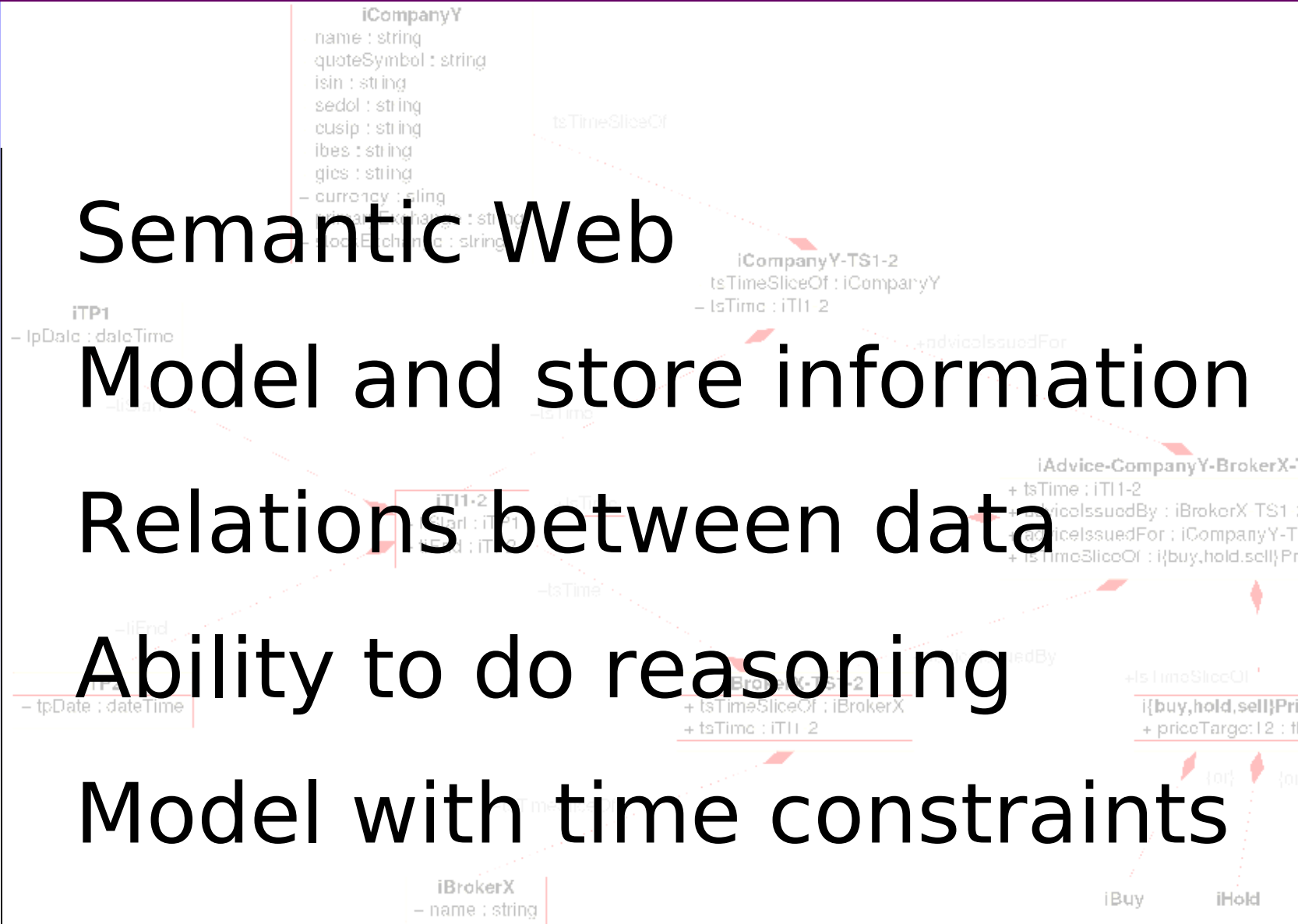
Semantic Web

Model and store information

Relations between data

Ability to do reasoning

Model with time constraints



# Applications - TOWL

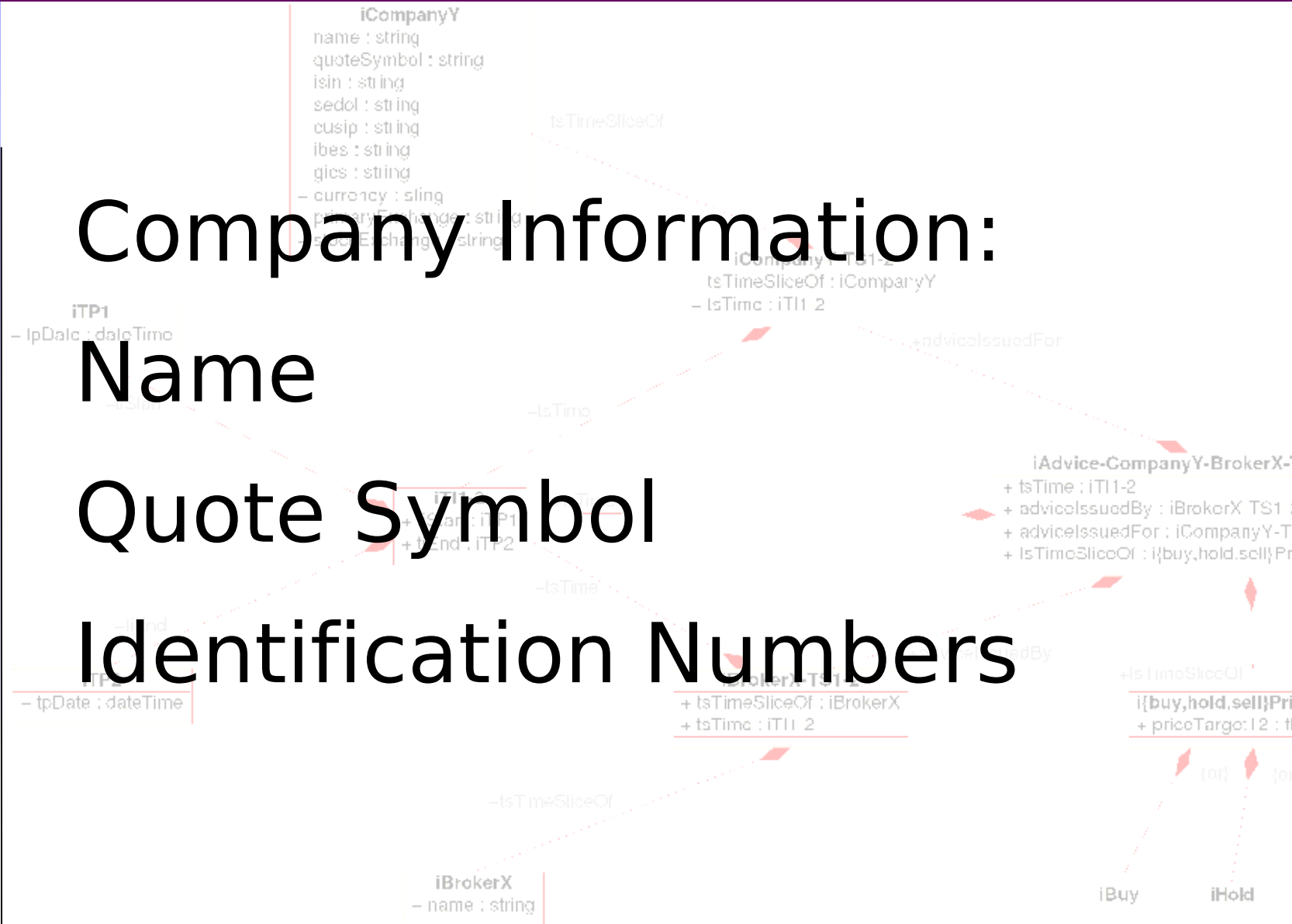
- Introduction
- Methodology
- Applications
- TOWL
- IE
- AA
- Results
- Conclusions

Company Information:

Name

Quote Symbol

Identification Numbers





# Applications - TOWL

- Introduction
- Methodology
- Applications
- TOWL
- IE
- AA
- Results
- Conclusions

## Company Information:

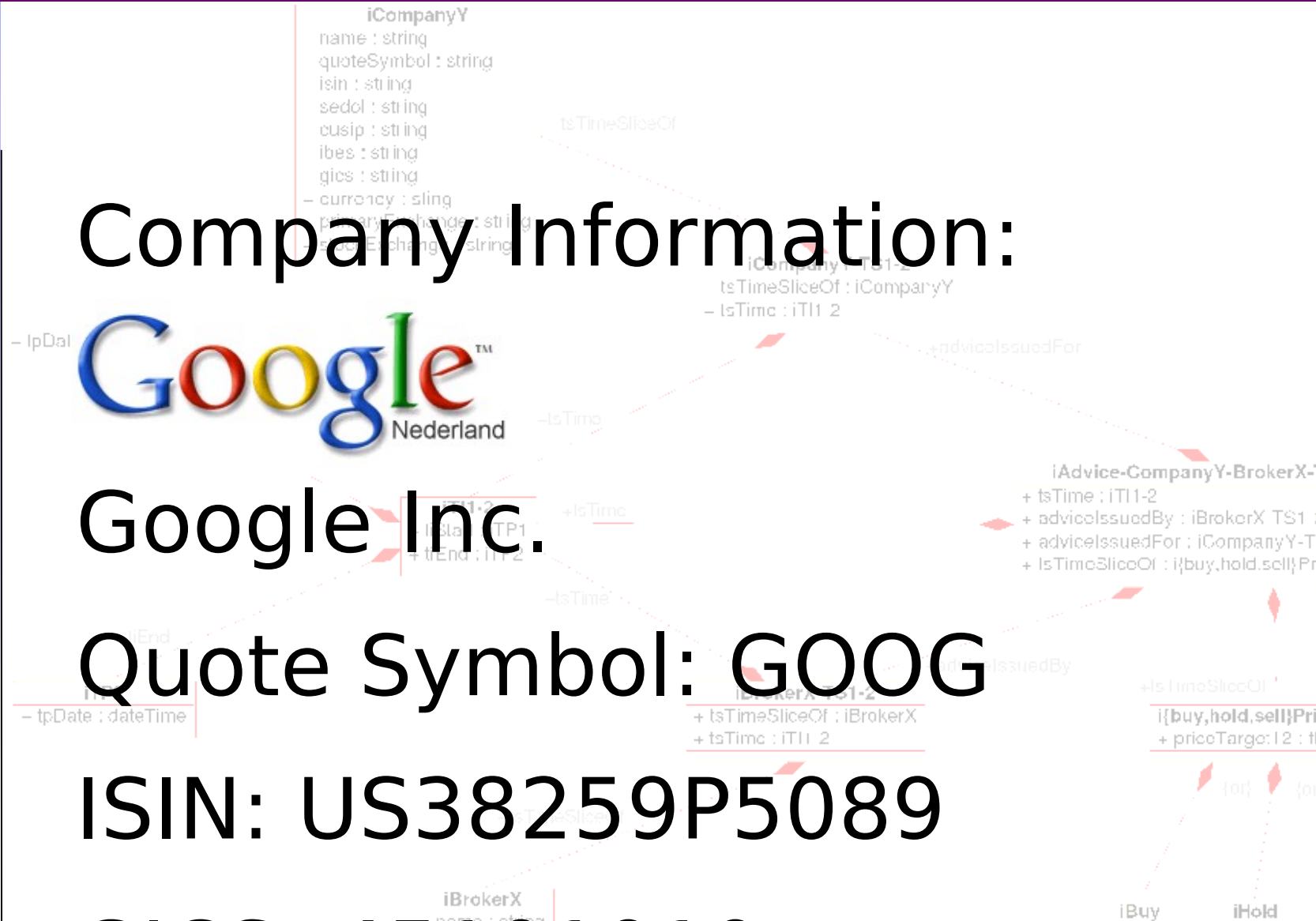


Google Inc.

Quote Symbol: GOOG

ISIN: US38259P5089

GICS: 45101010



# Applications - TOWL

- Introduction
- Methodology
- Applications
- TOWL
- IE
- AA
- Results
- Conclusions

Advices:

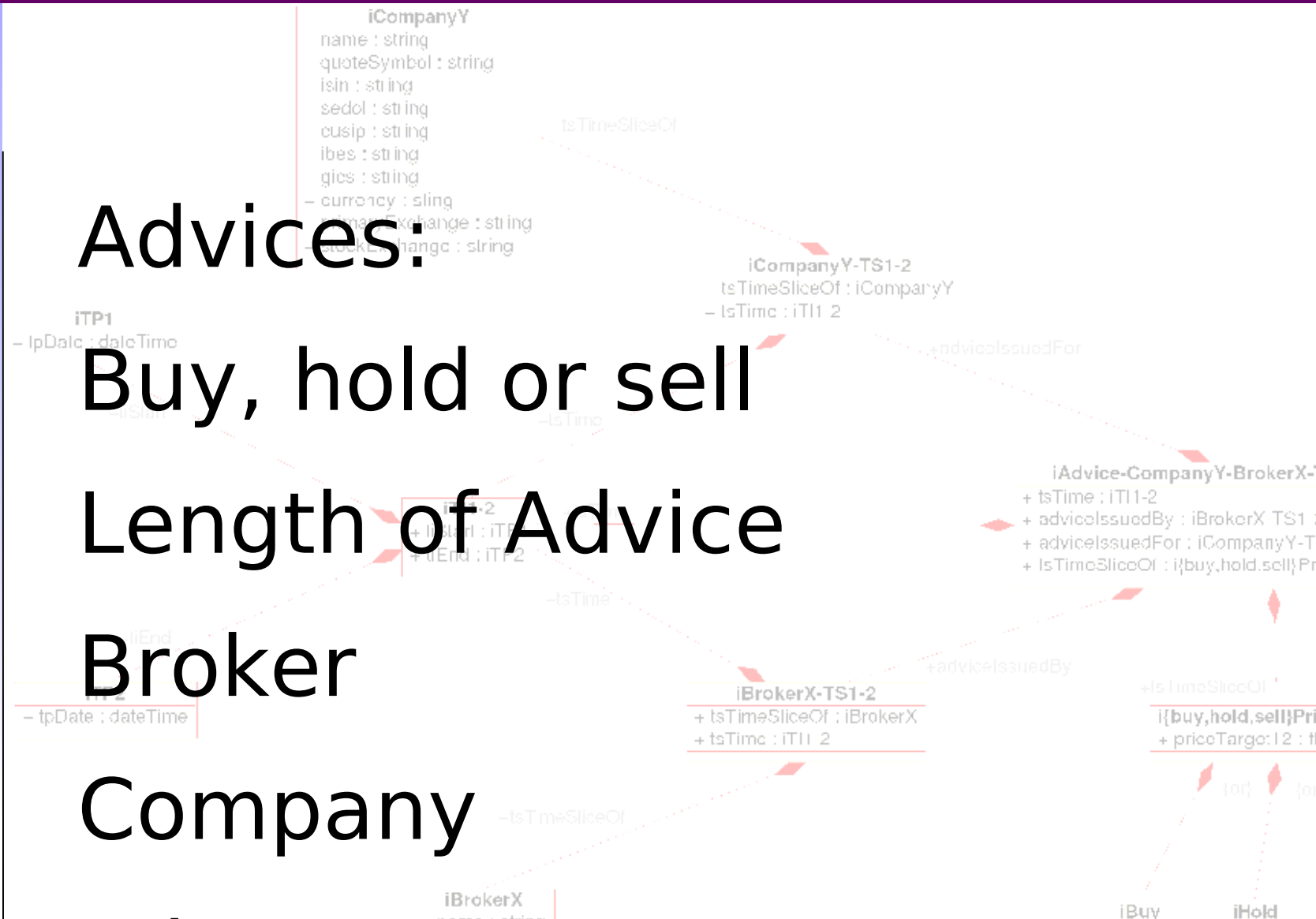
Buy, hold or sell

Length of Advice

Broker

Company

Pricetarget



# Applications - IE

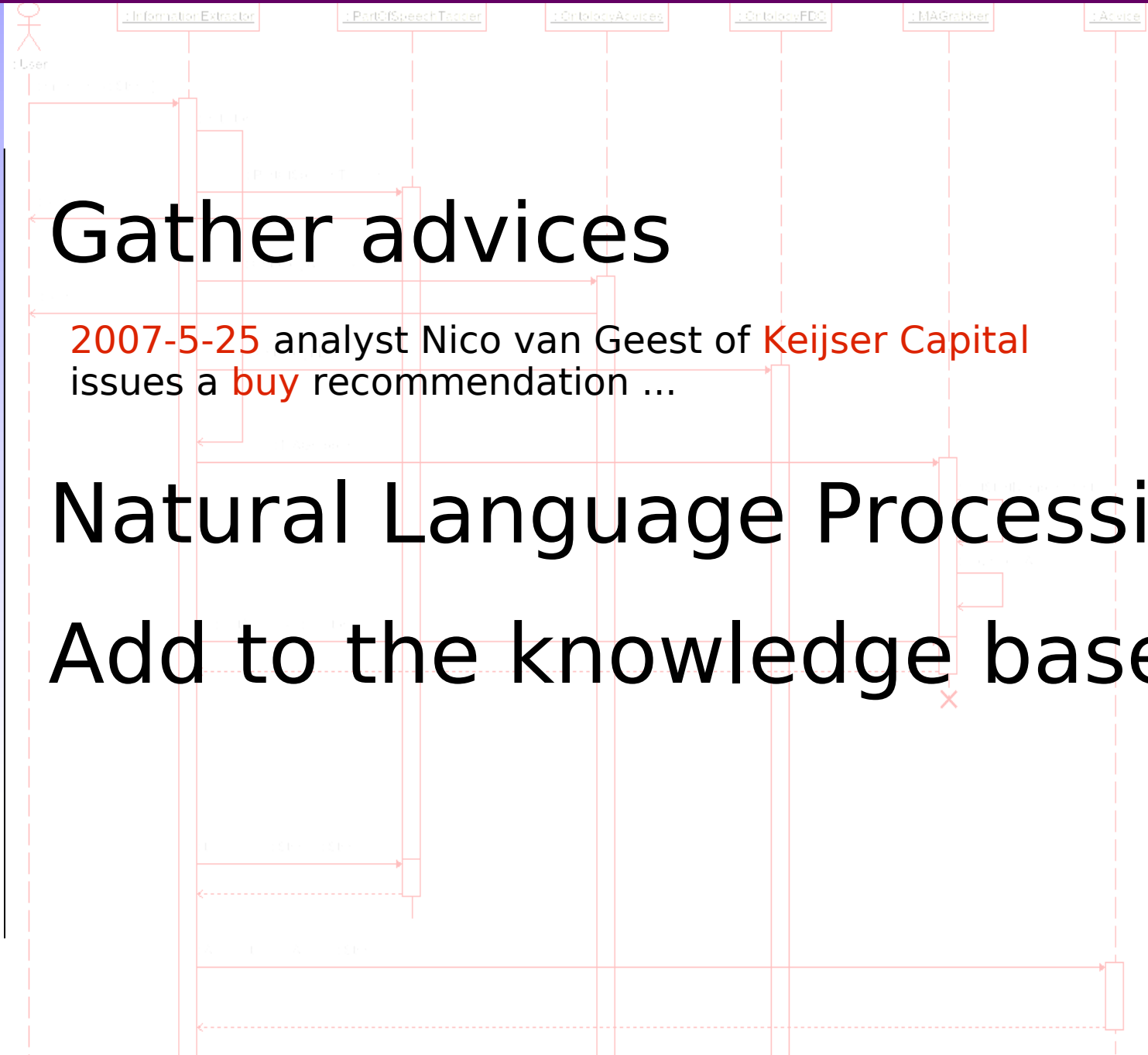
- Introduction
- Methodology
- Applications**
- TOWL
- IE**
- AA
- Results
- Conclusions

## Gather advices

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

## Natural Language Processing

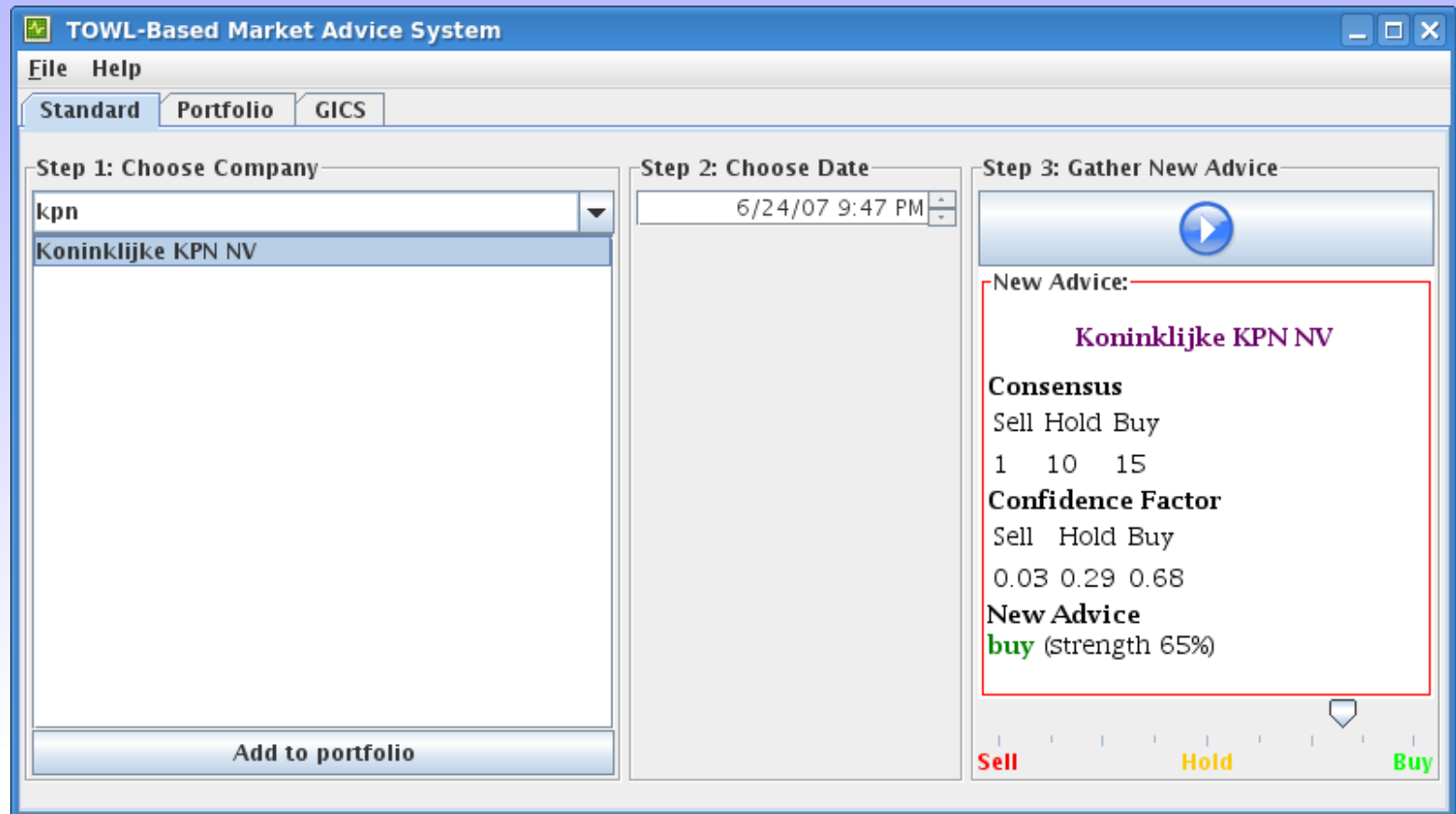
Add to the knowledge base





# Applications - AA

- Introduction
- Methodology
- Applications
- TOWL
- IE
- AA
- Results
- Conclusions



# Applications - AA

Introduction

Methodology

Applications

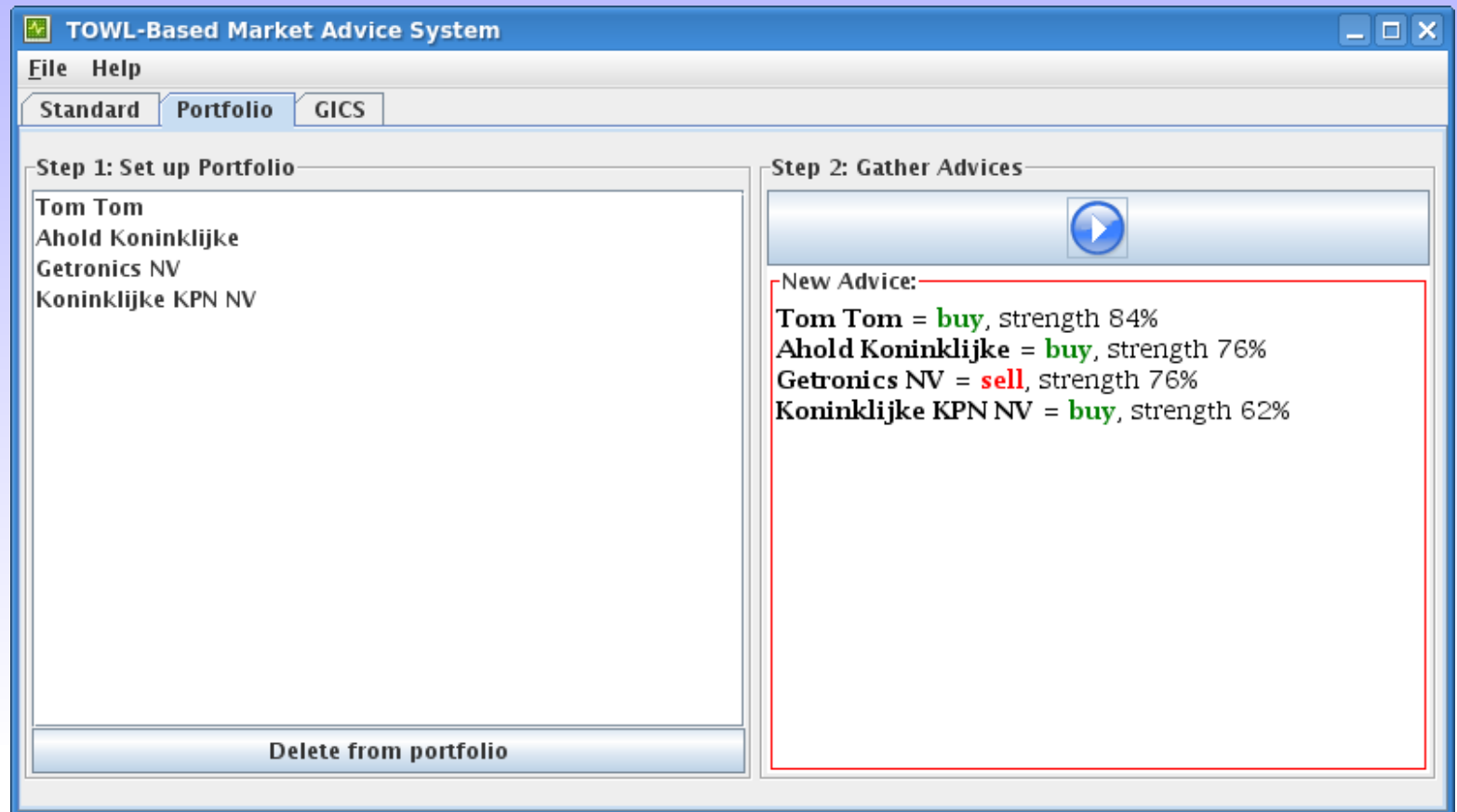
- TOWL

- IE

- AA

Results

Conclusions



# Results

- Introduction
- Methodology
- Applications
  - TOWL
  - IE
  - AA
- Results**
- Conclusions

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

Introduction

Methodology

Applications

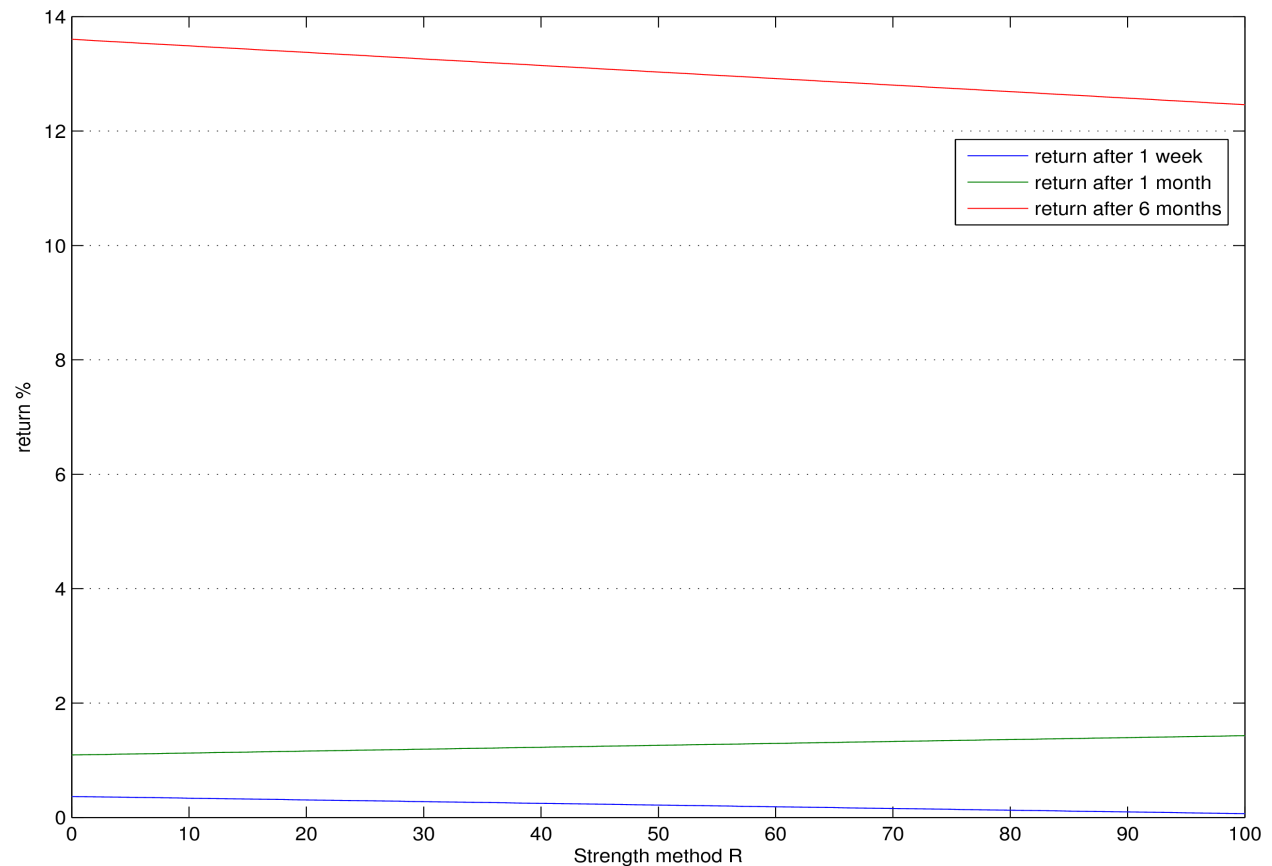
- TOWL

- IE

- AA

Results

Conclusions





# Conclusions

- Introduction
- Methodology
- Applications
  - TOWL
  - IE
  - AA
- Results
- Conclusions

Exchange can be beaten by aggregating advices

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

# Questions

Introduction  
Methodology  
Applications  
- TOWL  
- IE  
- AA  
Results  
Conclusions

## Questions

