

The logo for UNIL, featuring the word 'Unil' in a white, cursive script font.

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CAISE DC 2008 - Montpellier

Prediction Markets as an Innovative Way to Manage R&D Portfolios

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R&D Portfolio Management Process

« The R&D project portfolio selection is a **periodic activity** that aims at **optimizing** the research effort of the company, while enabling it to select a portfolio, which corresponds to its **strategic objectives** and without exceeding the resources available. »

R&D Portfolio Management Process Framework



- Financial Models (NPV, ECV, PI, ...)
- Scoring Models

- Bubble Diagrams
- Portfolio Maps

- Technology Roadmaps
- Strategic Buckets

R&D Portfolio Management Issues




Main issues of traditional quantitative approaches:

- Selecting the right criteria
- Collecting the data
- Negotiating the portfolio

Prediction Markets Principles

1 More than 63% How many of us will be assistant professors at the end of 2012?

EU start new IS project



€ 63

2

BUY 35 shares at €66

SELL 35 shares at €66

Price	Qty
€70	80
€66	35
€60	53
€57	12

4 Market settlement 31.12.2012 @ €68

$35 * 68 = 2'380$ $35 * 66 = 2'310$
 $- 35 * 66 = 2'310$ $- 35 * 68 = 2'380$

€70 -€70

3

EU project → € 66

Price	Qty
€70	80
€60	53
€57	12

35@€66 -35@€66

Prediction Markets Applications

BECOME A MEDIA MOGUL AS YOUR PORTFOLIO SKYROCKETS!

home movies HShop login join

WANT TO BE A PLAYER?

MOVIE IPO OF THE DAY
Harry Potter and the Deathly Hallows - Part II
 Warner Bros. will acquire an extra movie out of the last book of the franchise.

LEADERBOARD (SEASON-TO-DATE)

1	John Babb	+153.85%
2	Scott Howard	+112.46%

intrade
The Prediction Market

See ABC 20/20 Feature on Intrade (May 8 2008)

2008 US Election - 2008 Democratic Presidential Nominee
 Barack Obama to be Democratic Presidential Nominee in 2008

Last Price: 91.4 \uparrow 0.1

You can buy this at 91.4

You can sell this at 91.4

Closing Price: 91.5

2008 US Election - 2008 Democratic Presidential Nominee
 Hillary Clinton to be Democratic Presidential Nominee in 2008

Last Price: 7.7

You can buy this at 8.0

You can sell this at 7.7

Closing Price: 7.7

2008 US Election - 2008 Presidential Election Winner (Individual)
 John McCain to win 2008 US Presidential Election

Last Price: 38.0 \uparrow 0.4

You can buy this at 37.7

You can sell this at 37.6

Closing Price: 37.8

marmix
Mobile Payment

Technologies de paiements mobiles à l'horizon 2011

Make A Prediction

TIP: Current value = probability prediction will occur, e.g. \$10 = 10% chance prediction will occur

Select a prediction:

PREDICTIONS	CURRENT VALUE	TODAY
Mobile phone + NFC	\$58.13	\$0.97
SmartCard	\$52.00	\$2.00
Contactless Card (RFID)	\$62.00	\$-3.19
Mobile phone + proximity	\$51.20	0.00
Mobile phone + remote	\$49.51	0.00
Magnetic Card	\$47.01	\$-1.10

Price Chart

Line chart showing price trends for various prediction markets from April 28 to May 28.

Prediction Markets in Fortune 500 Companies

Microsoft

Predicting the number of bugs in new software

General Electric

Choosing the best new research ideas

HEWLETT PACKARD

Forecasting microchip prices

Google

Predicting the date of product launches

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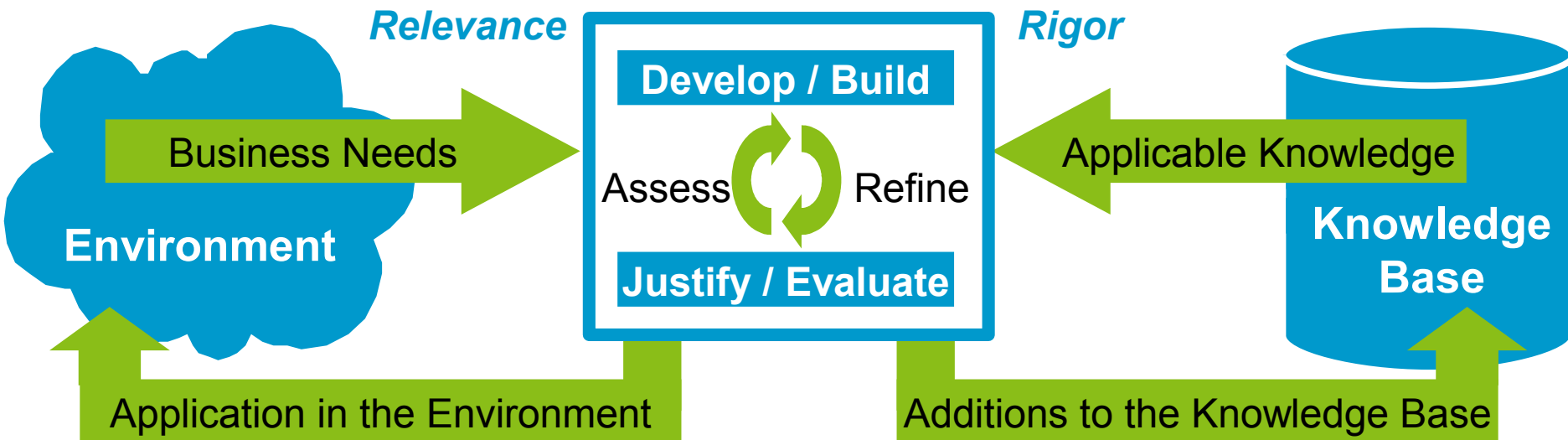
Research Methodology

PM for R&D portfolio mngt

- IT artefact
- Claim ontology
- Conceptual model

Design Appropriateness

- Case study in R&D community
- Interviews
- Comparison with other tools



- New DSS for R&D portfolio mngt
- Guidelines to use PM in corporate environment

- Design propositions and mechanisms
- Appropriateness of PM to manage R&D portfolios