

## “Keep It Simple”

*On over-sized BSC (and other) measurement programmes*

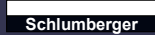
Rini van Solingen  
Principal Consultant  
CMG-TTI, RTSE1, The Netherlands

rini.van.solingen@cmg.nl

## Objective

“To discuss why company-wide measurement programmes tend to explode and therefore collapse”

## Who am I...



- Education
  - TU Delft: Master in Informatics
  - TU Eindhoven: PhD in Management Science
- Schlumberger RPS/TOKHEIM
  - QA for systems development
  - ESSI/CEMP, PROFES
- Fraunhofer IESE
  - Department head QPE (15)
- CMG TTI
  - Principal consultant "SW Product and Process Improvement"

## Publications (> 50)

- Books
  - Several chapters in SE/SPI books
  - GQM book, McGraw-Hill, '99
- Journals
  - IEEE Software, '98 (2), Quality & Reliability Eng. Int., '99 (2), Information & SW Technology, '00
- Keynotes
  - UKSMA'97, London, NASA-SEL'99, Washington, DASMA'00, Düsseldorf, SPIder'01, Utrecht, FESMA'01, Heidelberg

## Contents

- Introduction
- Needs for measurement
- What is the Balanced Scorecard?
- Fail and success factors
- BSC mistakes & recommendations
- Conclusions

## Common questions:

1. What is the size of your system?
2. How long do you need to properly develop a feature of a certain size?
3. How long will a change request take to be implemented?
4. What is the chance that your product fails?
5. Where do you need to improve most?
6. Will your end-user be happy?
7. How many defects do you (probably) release to your customer?



## Can you give good answers?

Most companies can't!

## But how can you manage then?



## Why measure?

“You can't control, what you can't measure”

(Tom DeMarco)

What can be measured?

“Everything can be measured in some way that is better than not measuring it at all!”

(Tom Gilb)

What to measure?

“Only measure what you will use”

(Rini van Solingen)

## What do you need to know?

That which contributes to your objectives.

“Projects without clear goals, will not achieve their goals clearly!”

(Tom Gilb)

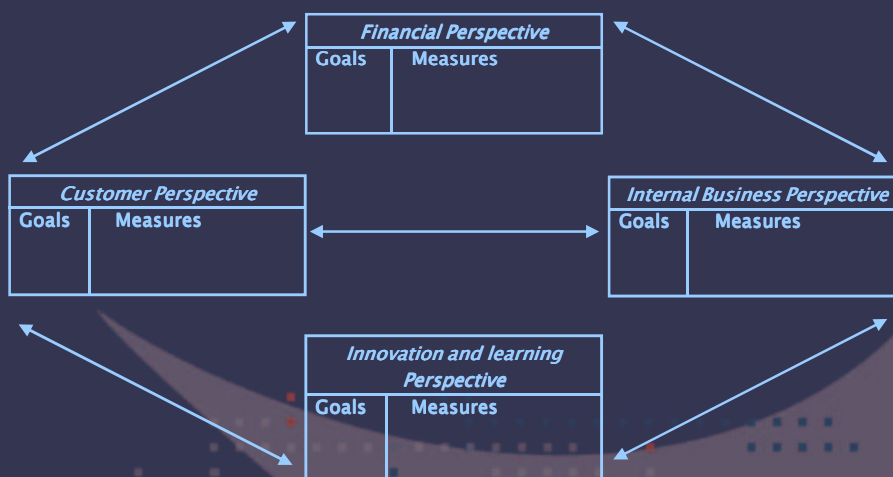
## “You get what you measure!”

- “Balanced ScoreCard concept”
- Response to financials only
  - Most companies managed on budgets
  - Risk of short-term management
  - Local optimisation
  - Many non-financial organisations
- Focus to long term strategic goals
  - Quantitative and objective metrics
  - Limited number of indicators

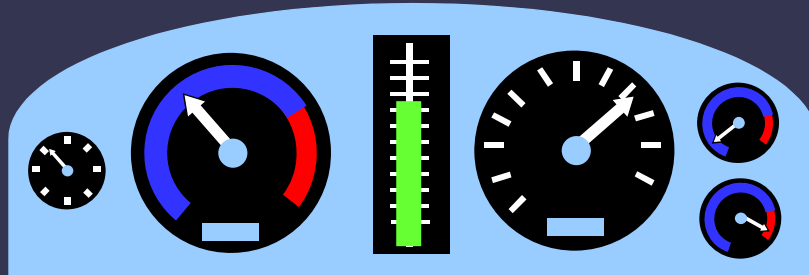
## Four basic perspectives

- Customer
  - How do customers see us?
- Internal
  - What must we excel at?
- Innovation and learning
  - Can we continue to improve and create value?
- Financial
  - How do we look to shareholders?

## What is a Balanced ScoreCard?

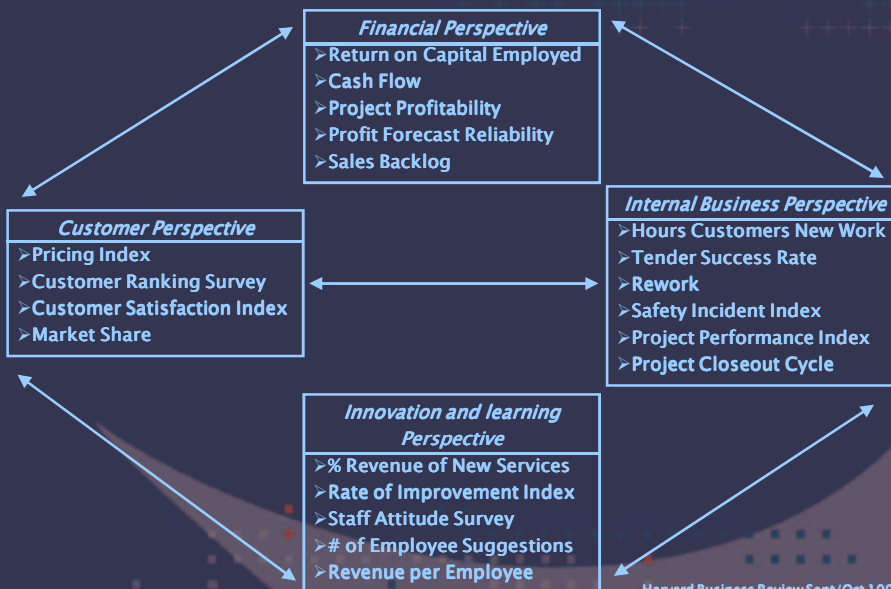


## BSC is like a cockpit



- Customer
- Financial
- Internal business
- Innovation and learning

## Rockwater BSC



Harvard Business Review Sept/Oct 1993



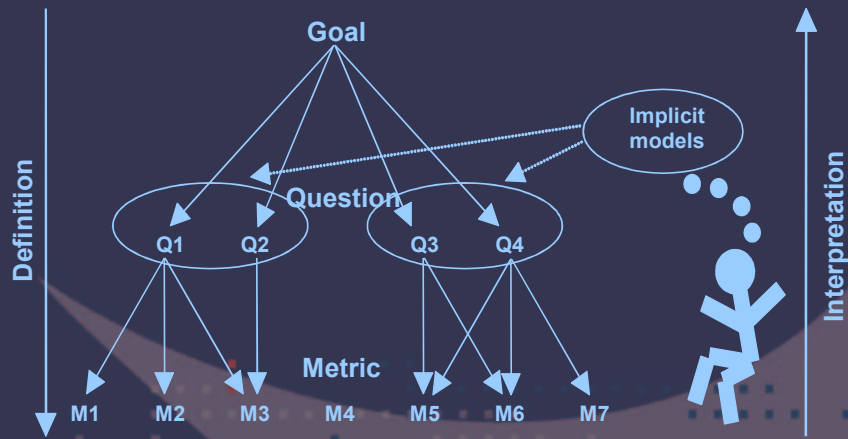
## So far so good....

- However:
  - When to stop is not defined
  - Large investment effort
    - Organisational
    - Procedural
    - Automation
  - Objective measurement difficult
  - BSC is investment too; not a religion
  - Tendency to over-measure

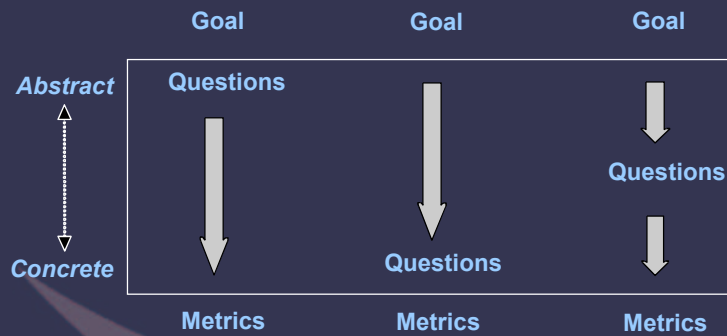
## Oversized measurement known problem

- GQM provides a solution:
  - Focus to goals
  - Refine to questions
  - Specify expectations
  - Keep feedback sessions
  - Top-down definition
  - Bottom-up interpretation
  - Measure to learn

## What is Goal/Question/Metrics ?



## Define appropriate questions



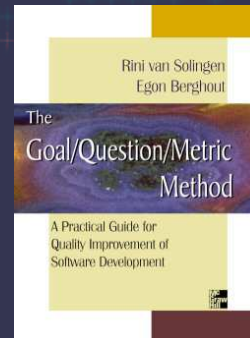
1. Question definitions too global

2. Question definitions too detailed

3. Usable question definitions

## GQM experiences described

- Based on practice
- Goal-driven
- Industrial experiences
- Examples available
- Working procedures
- Investment: <2% of projects
- ROI always positive (up to 1:34)
- De-facto SW-measurement approach



## Fail factors for measurement

- Lack of purpose
- No support
- Changing staff and management
- Non-focused metrics
- Not clear what to do with data
- Lack of feedback
- No commitment and motivation
- Used for control or judgement
- No long term strategy

## Success factors for measurement

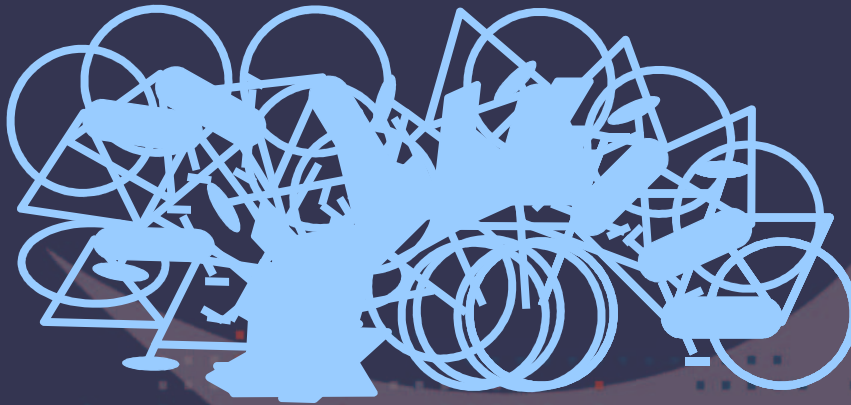
- Explicit goals
- Explicitly defined expected outcomes
- Keep it small, simple, and agile
- Involvement: feedback sessions
- Assignment of key-people
- Yearly evaluation (ROI)
- Measurement for learning, not judging
- Management commitment

## Main BSC mistakes

- Too much discussion
- Too many metrics
- Too large investment
- Too much automation
- Too many people involved
- Too much effort for continuation
- Too much subjectivity
- BSC becomes a goal in itself!



## BSC is often like a cockpit on a Bike



## Your BSC programme

- Treat it as measurement
  - Study measurement literature
  - Look at GQM: define metrics based on questions and goals
- Start small and keep it simple
- Define upfront what will be done with certain outcomes
- Organise feedback sessions
- Measure BSC as an investment

## Conclusions

- BSC powerful, but using it is not simple
- Measure your measurement programme
- Keep it simple
- Don't measure without a goal
- Refine goals into questions
- Formulate expectations
- Only measure what is really important.  
Spend your efforts on the improvements!
- Let the people interpret: fb-sessions

Good thinking

CMG

## Links

- <http://www.gqm.nl/>
- <http://www.balancedscorecard.org/>
- <http://www.psmc.com/>
- <http://www.profes.org/>
- <http://user.cs.tu-berlin.de/~fetcke/metrics-sites.html>
- <http://irb.cs.uni-magdeburg.de/sw-eng/us/>
- <http://www.sei.cmu.edu/sema/>

rini.van.solingen@cmg.nl  
Tel.: +31-10-2537000