Experiences in Using the Goal/Question/Metric Paradigm

by
Rini van Solingen

Eindhoven University of Technology

Tokheim

The Netherlands

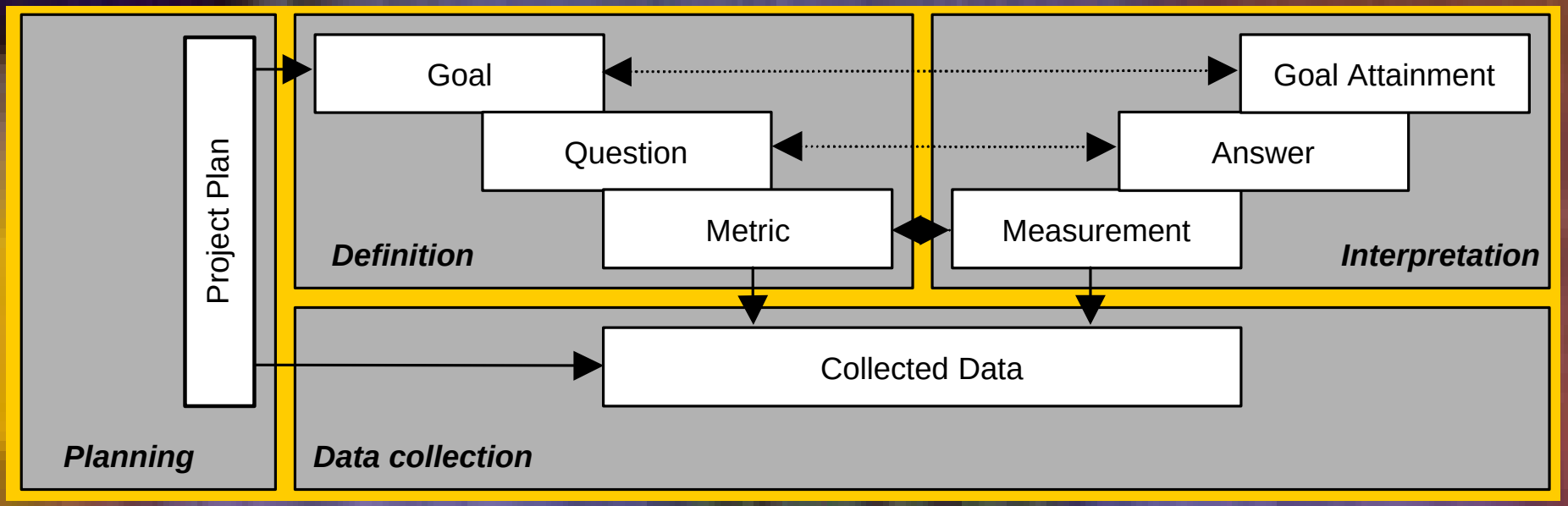
Contents

- Tokheim
- The Goal/Question/Metric method
- Examples from practice:
  - Reliability
  - Reuse
  - Interrupts
- Lessons learned
- Conclusions

Tokheim

- Petroleum retail systems and services:
  - Fuel dispensers
  - Payment and cashing systems
  - Petrol station construction
  - Maintenance and refurbishing services
- 4.800 employees in 145 countries
- Annual revenue: US$ 700 million
- GQM experiences started in former Schlumberger RPS, September 1994

The GQM method

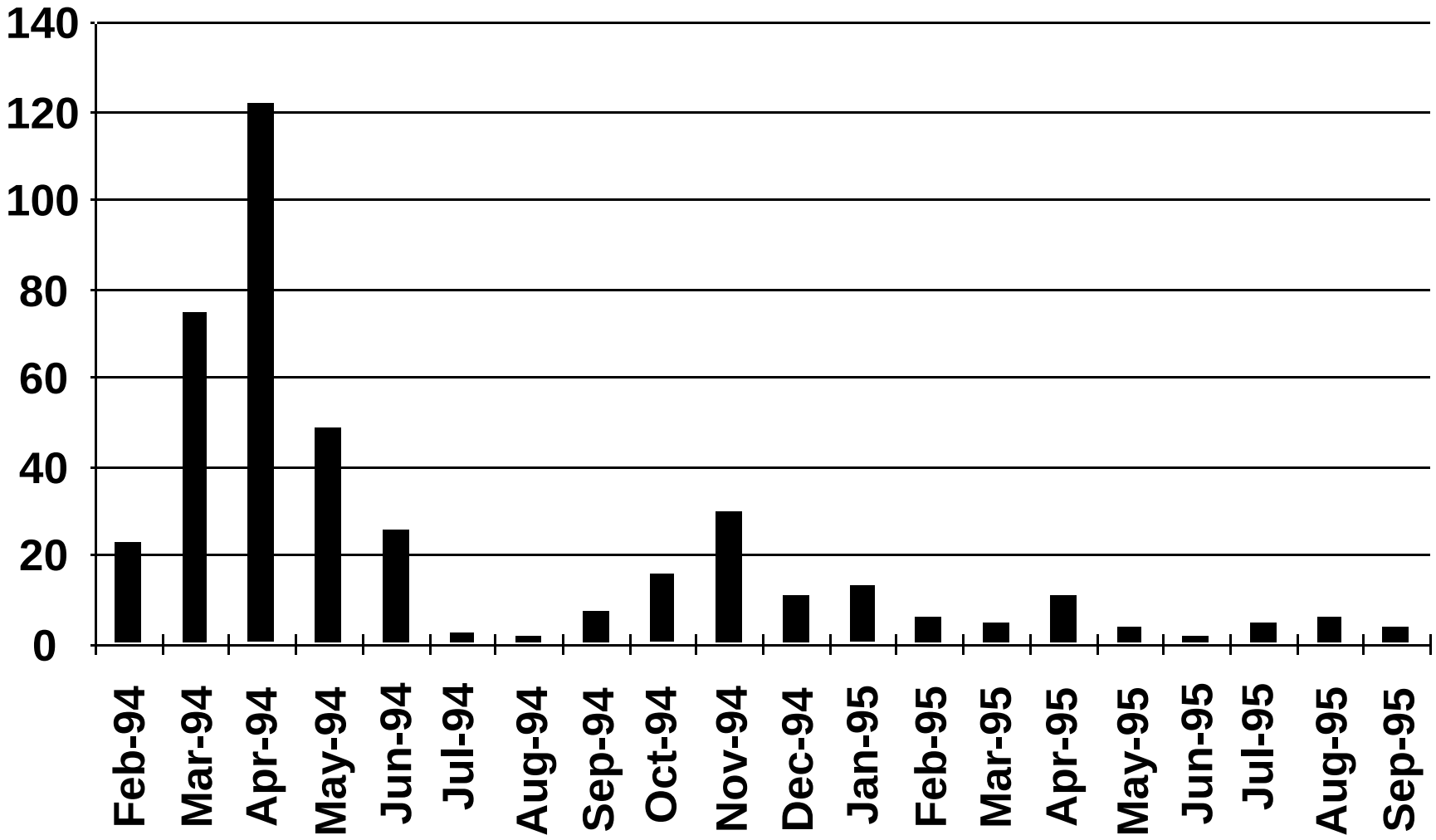


- **Four phases:**
  - Planning: preparation
  - Definition: specification of GQM
  - Data collection: measurement
  - Interpretation: feedback sessions

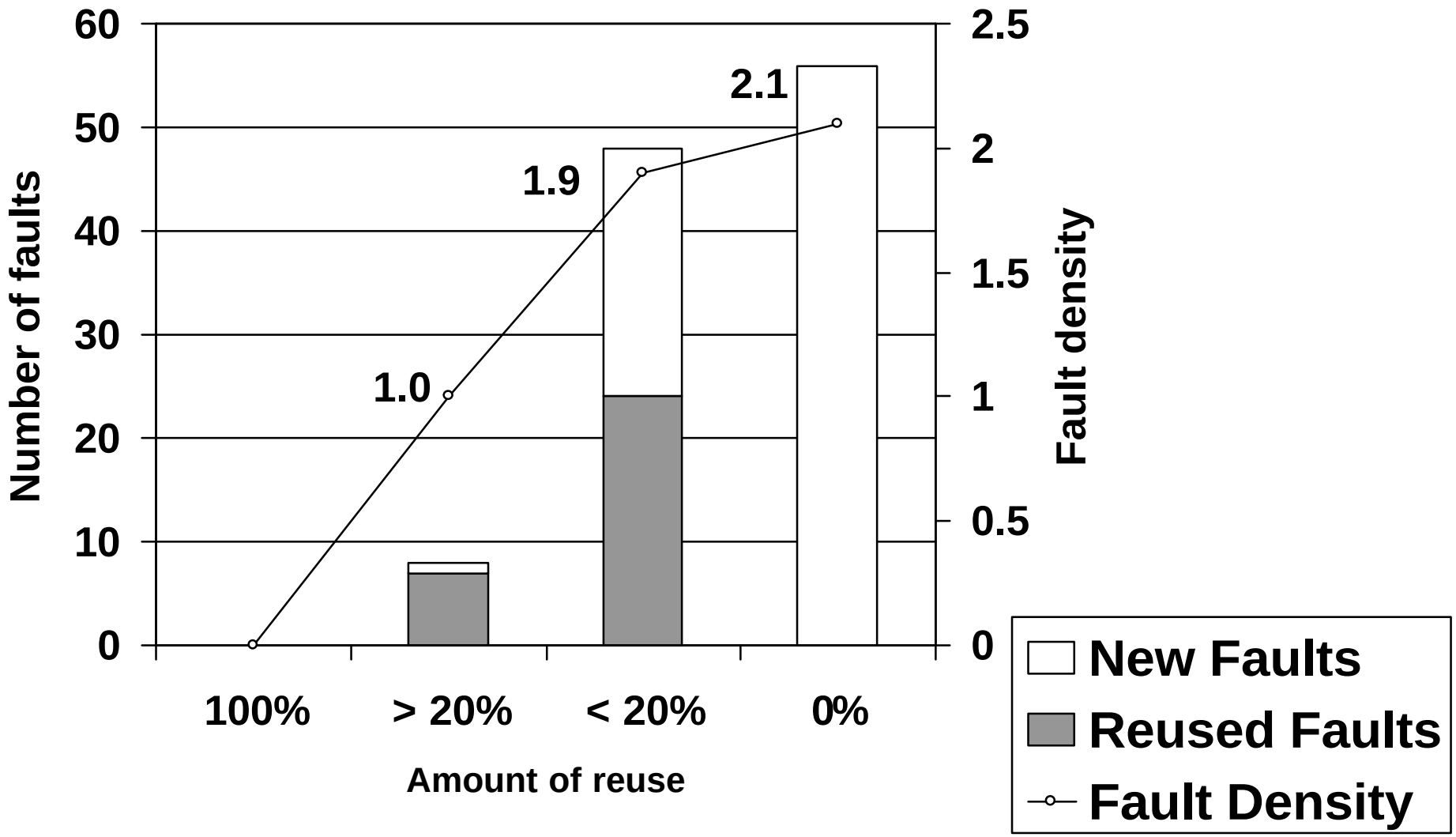
GQM fits to industrial needs

- Goal-orientation suits industry
- Support for multiple goals
- Focusing to relevant topics
- Solving relevant problems
- Both product and process related
- Limiting of measurement investment
- Supporting projects and teams, not organisations as a whole

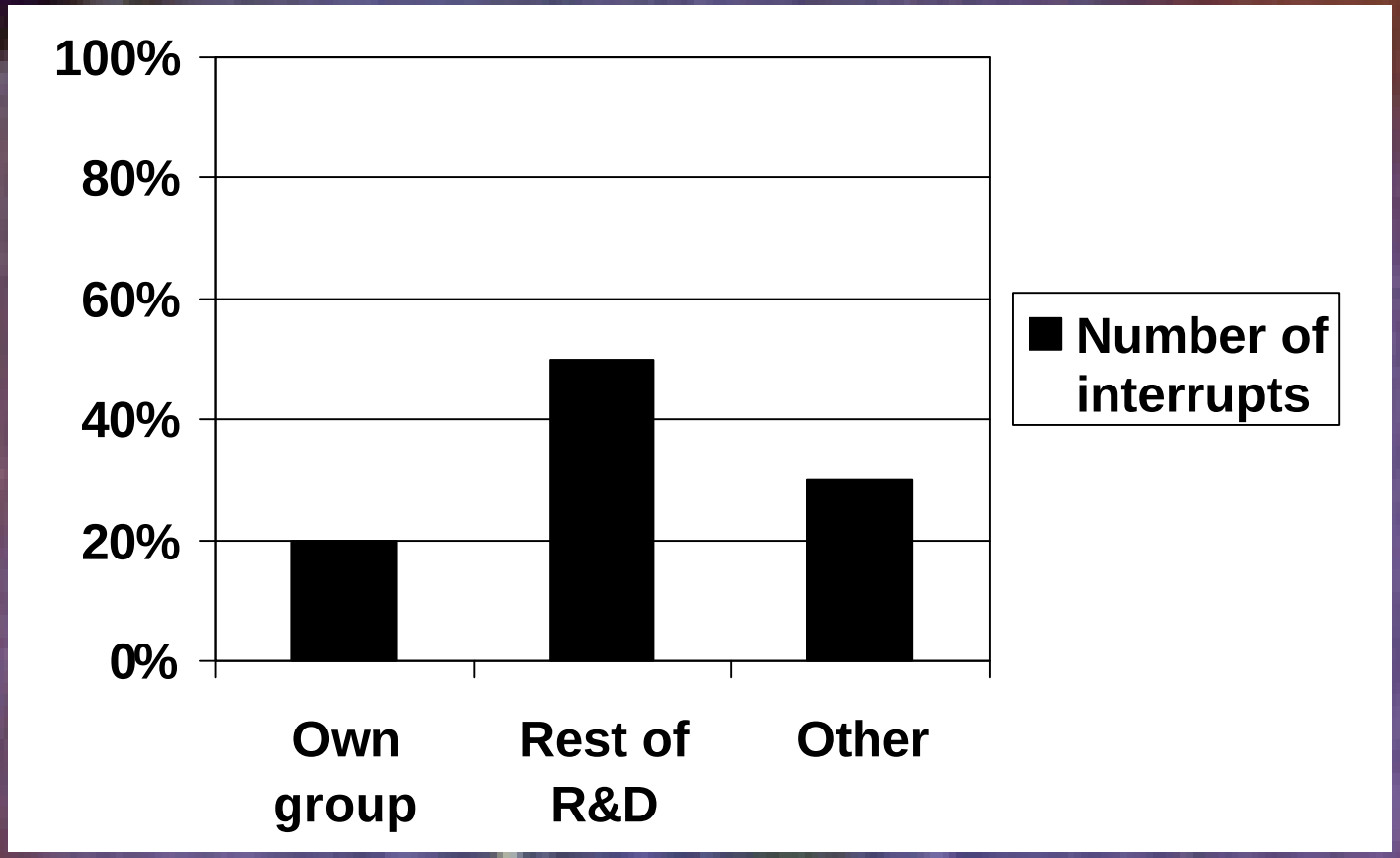
Example: Reliability



Example: Reuse



Example: Interrupts



- Own Group is Number 1 initiator
- 70% of interrupts originate within R&D
- Decrease of interrupts 30-50% in 3 months (5% gain)

Lessons learned

- GQM supports industrial learning
- Learning rarely an explicit goal in industrial environments
- Cost are limited: <1% of project efforts
- Benefits exceed the costs largely
- ROI > 10, payback time < 3 months
- GQM support group necessary and can be incorporated in QA department

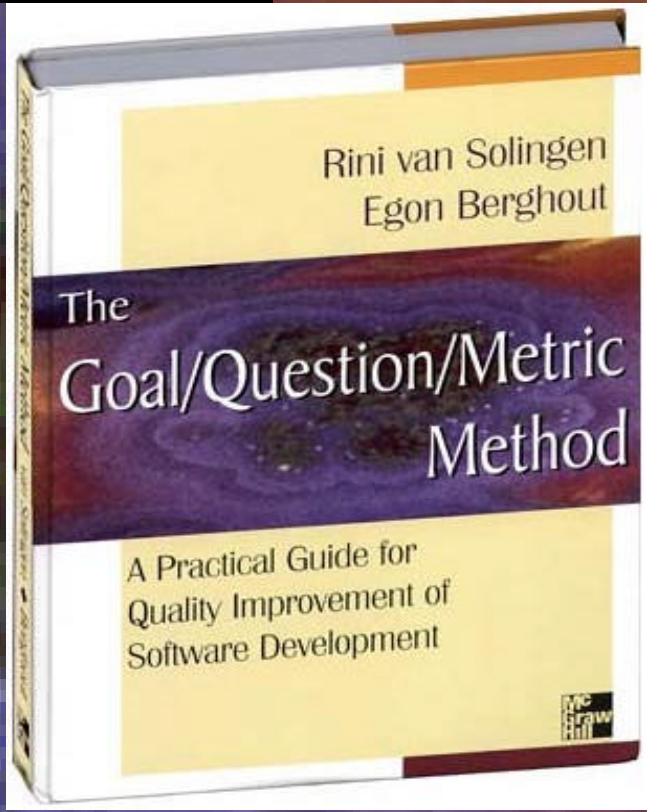
Conclusions

- Positive industrial experiences
- GQM helps focussing
- Specify expectations explicitly
- Project team interprets
- Measurement is also an investment
- Keep it simple
- Combine GQM with SPI efforts

Further reading

- ISBN 0-07-709553-7
- 200 pages, hard cover
- UK£ 35 (= US$ 58)
- SEW'99: US$ 45

  Http://www.gqm.nl/



- IEEE Software Jan/Feb 1998, Reliability
- IEEE Software Sep/Oct 1998, Interrupts