



# Scenario analysis

## How to deal with uncertainty?

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IOR - 10 September 2015

DeNederlandscheBank

EUROSYSTEEM

# Did you see it coming?



A Vodafone incident

VU Medical Center

Very heavy snow fall



Regulatory risk



Reputation risk because of a product

# What about the future? Blurry or clear?



# Uncertainty – you expect something but..



# Insight is required...

## CRD IV

### Article 85

#### Operational risk

1. Competent authorities shall ensure that institutions implement policies and processes to evaluate and manage the exposure to operational risk, including model risk, and to cover low-frequency high-severity events. Institutions shall articulate what constitutes operational risk for the purposes of the policies and procedures.

## Guidelines on Forward Looking assessment of own risks - ORSA

#### Guideline 12 – Assessment of the overall solvency needs

1.39. In accordance with Article 45 of Solvency II Directive, national competent authorities should ensure that the undertaking assesses its overall solvency needs and then expresses the overall solvency needs in quantitative terms and complements the quantification by a qualitative description of the material risks.

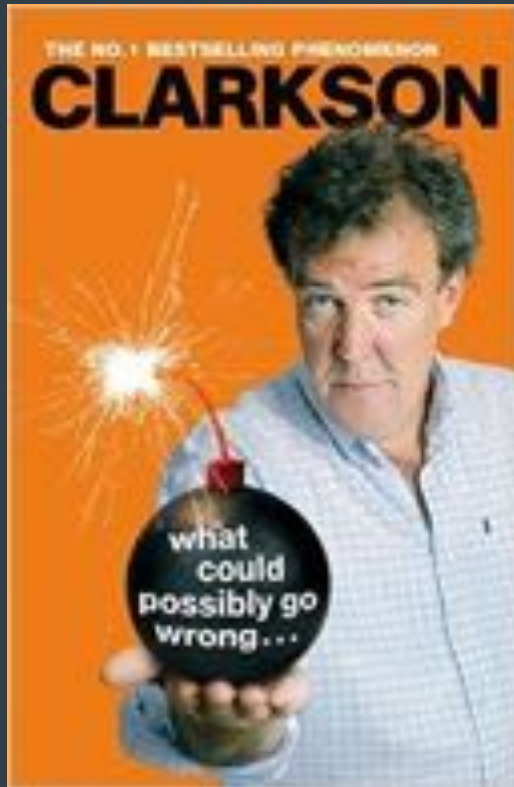
1.40. Where appropriate, national competent authorities should ensure that the undertaking subjects the identified material risks to a sufficiently wide range of stress test or scenario analyses in order to provide an adequate basis for the assessment of the overall solvency needs.

#### Guideline 13 – Forward-looking perspective of the overall solvency needs

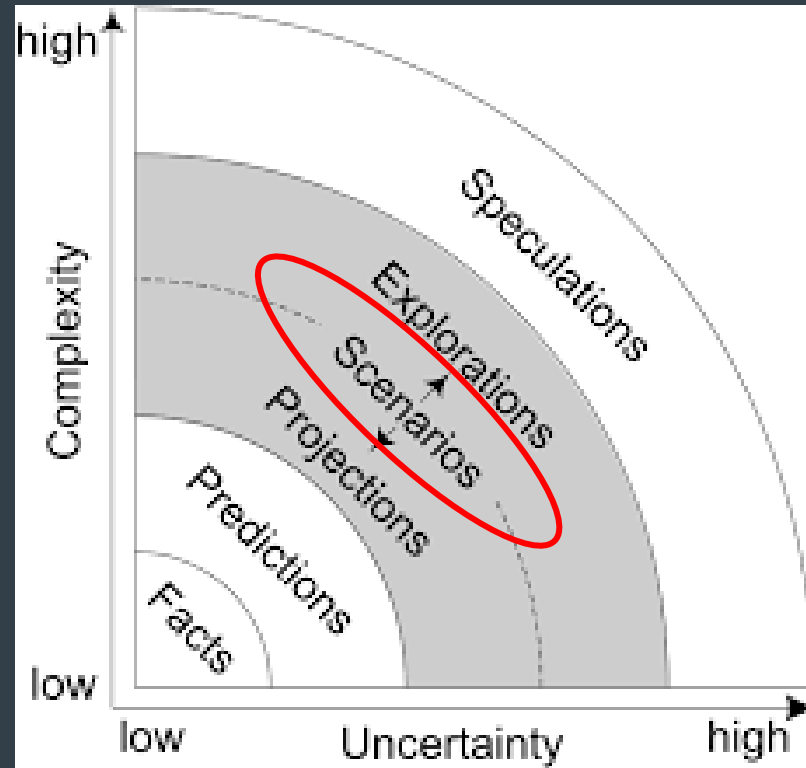
1.41. In accordance with Article 45 of Solvency II Directive, national competent authorities should ensure that the undertaking's assessment of the overall solvency needs is forward-looking, including a medium term or long term perspective as appropriate.

# How to get insight?

## Scenario analysis

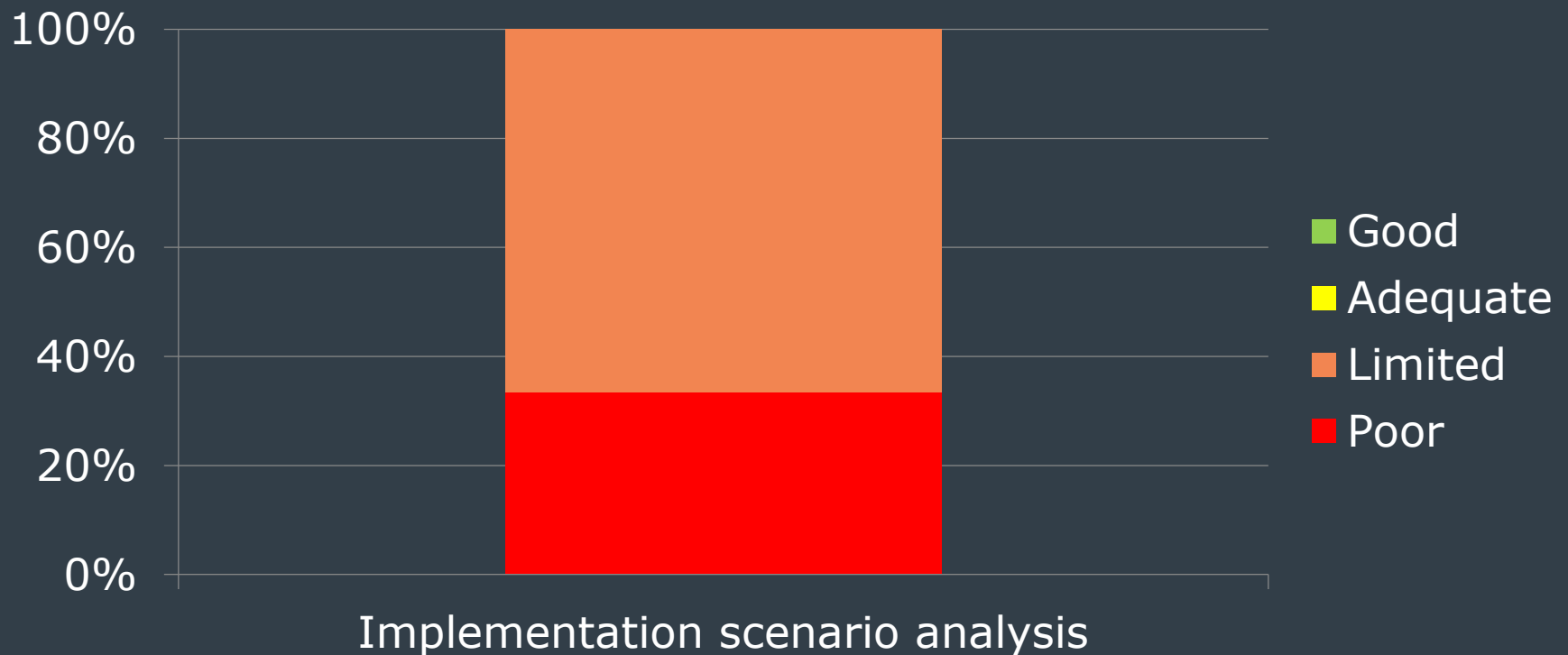


OR



# How well are non-AMA banks doing in NL?


## DNB investigation 2014 shows poor results



# Some characteristics of scenario analysis

“Scenario analysis is a process of obtaining expert opinion of business line and risk managers to identify potential operational risk events and assess their potential outcome”.

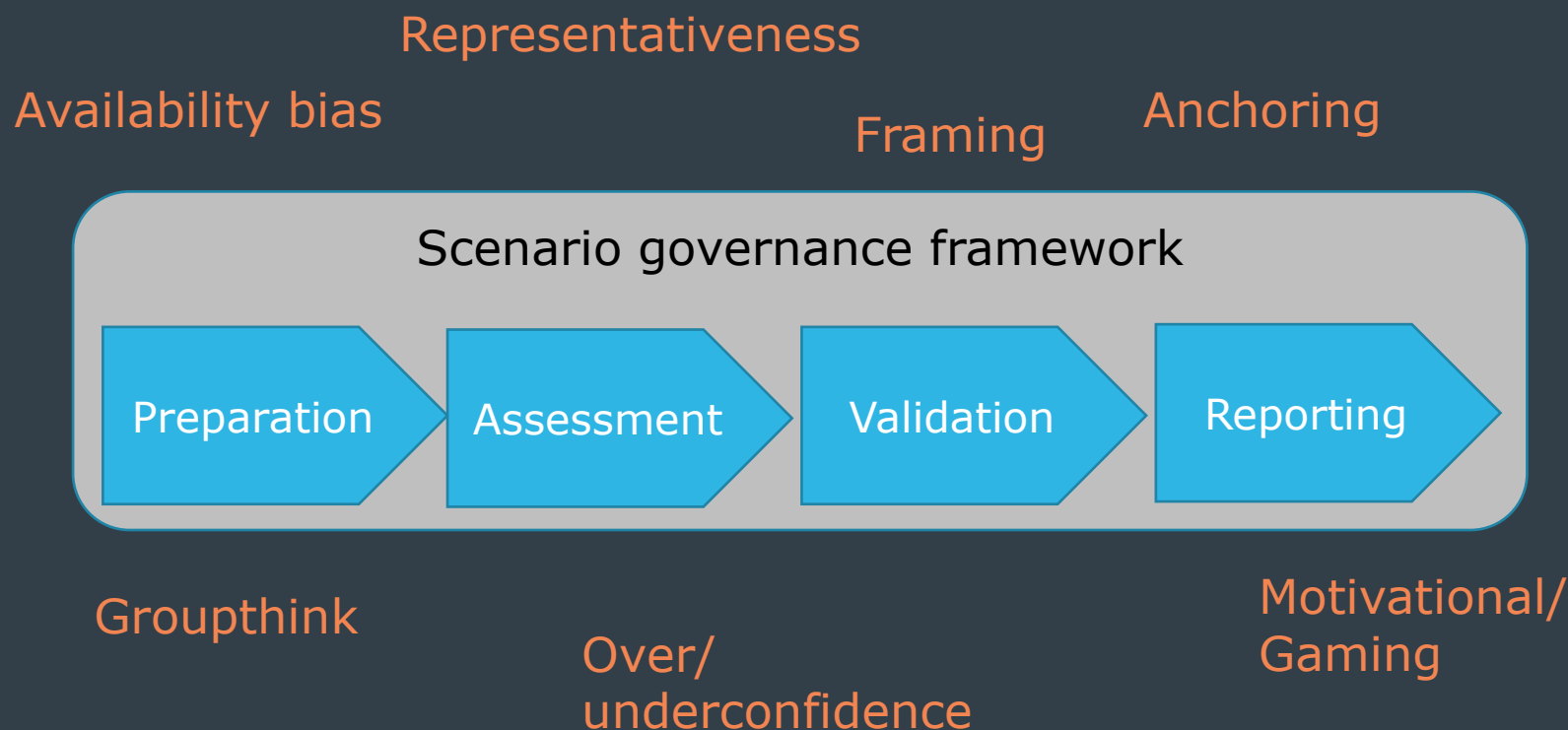
Source: BCBS *Principles for the Sound Management of Operational Risk*, 2011

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- Subjective process
  - Involvement of first and second line
  - Focus on plausible events
  - Focus on extreme events



# Basic elements robust scenario analysis process

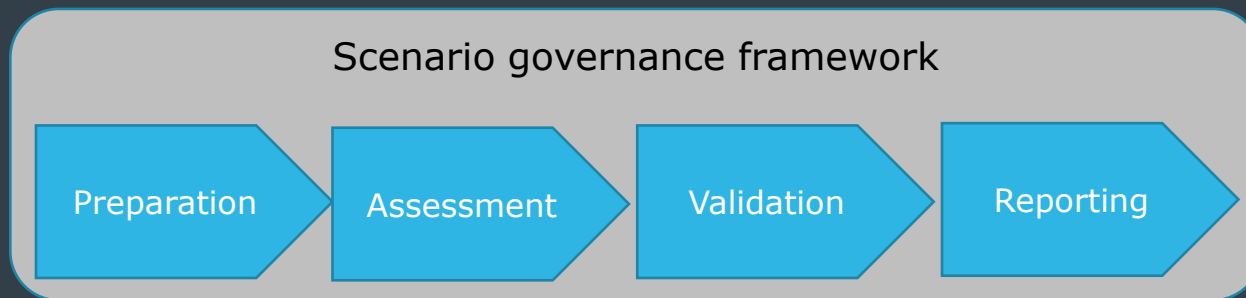
Without, biases could harm a reliable outcome



Source: KPMG & ORX, *Preparing for the Unexpected. Leading practices for Operational Risk Scenarios, 2011*

# Basic elements robust scenario analysis process

## Scenario governance framework

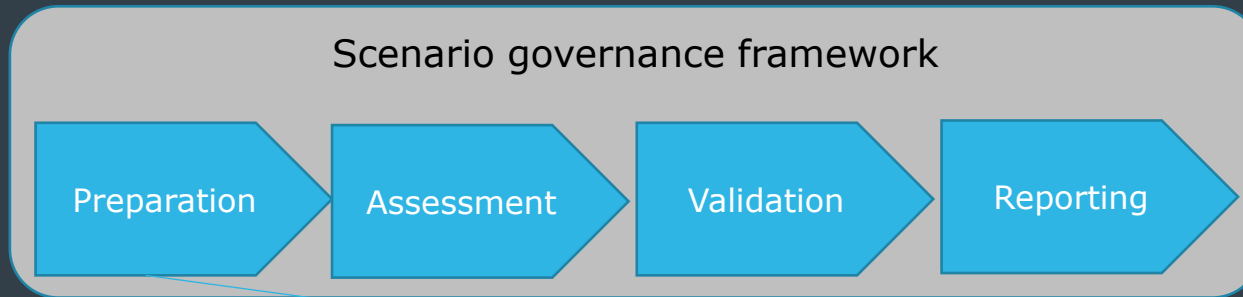


That assures:

- Involvement of senior management, first and second line expertise
- A facilitated process by experienced facilitators
- A structured process with transparent decision making
- The process is performed periodically (min yearly)

# Basic elements robust scenario analysis process

## Preparation

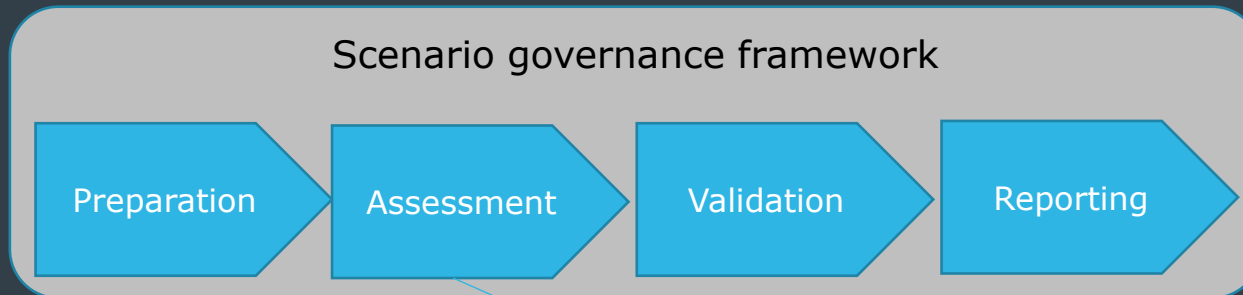


- Determine oprisk profile of organization
- Determine scope of scenarios
- Identify and select scenarios
- Outline scenarios in an uniform format underlined with internal/external data
- Select experienced participants

**!! Use different internal and external sources to identify and select scenarios.**

# Basic elements robust scenario analysis process

## Assessment

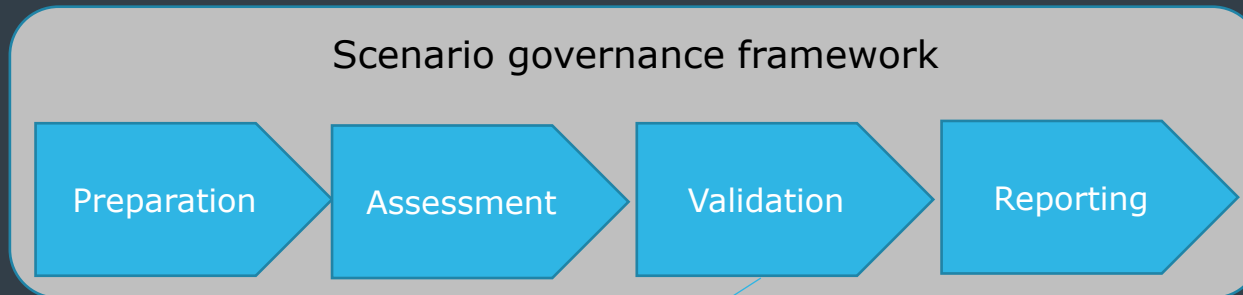


- Assess the impact (and frequency) per scenario
- Consider the current internal control environment
- Use a combi of individual and group assessment(s)

**!! Administer all outcomes, including underlying assumptions and considerations.**

# Basic elements robust scenario analysis process

## Validation

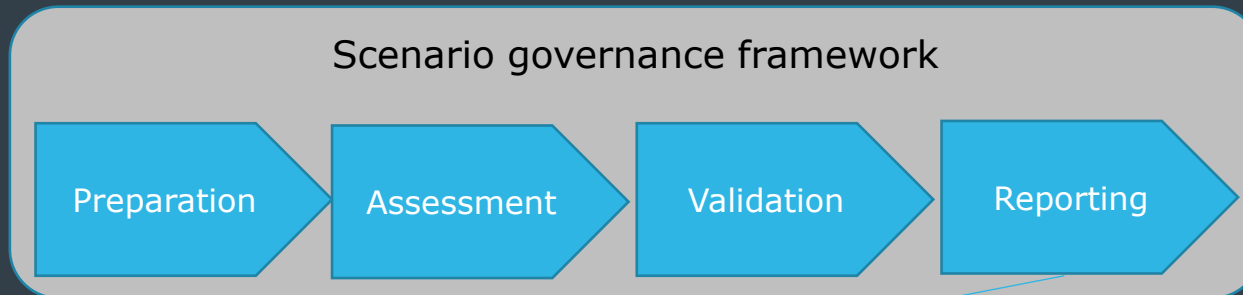


- Validate the final selected and assessed scenarios
- Validate the performed process
- Initiate improvement when necessary

**!! Validation should be done as independent as possible.**

# Basic elements robust scenario analysis process

## Reporting

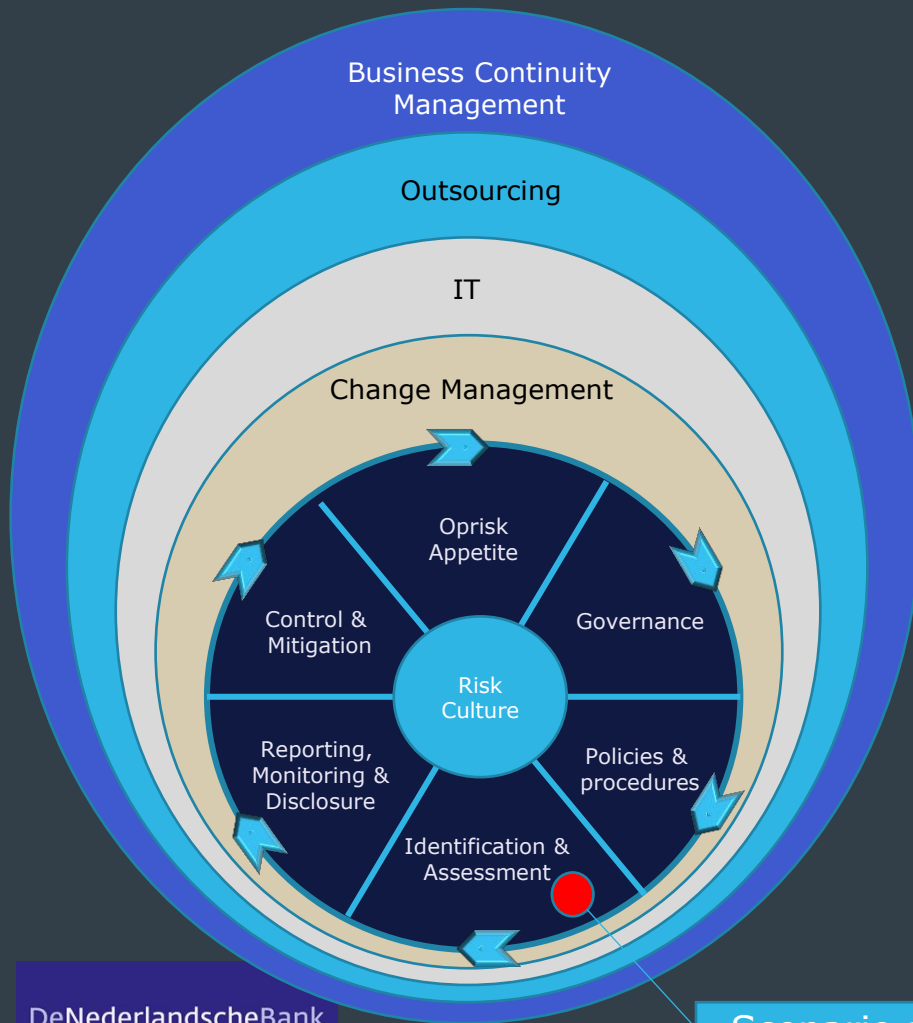


- Report to challenge the minimum required oprisk capital
- Report to initiate and monitor actions to improve the internal control environment.

**!! Use reporting to increase risk awareness within the organisation.**

# Scenario analysis stands not alone

It is part of the ORM framework

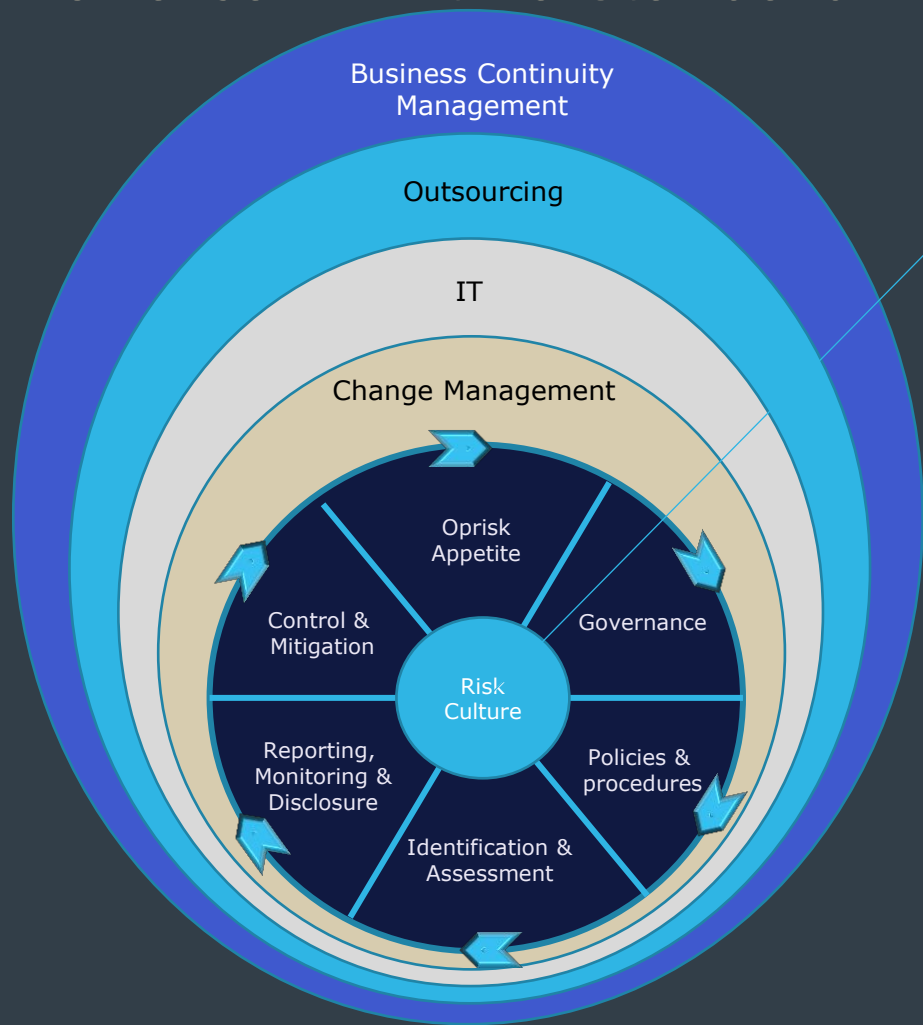


- Based on the PSMOR, DNB has recently published a reference framework on Openboek.
- This reference framework can be used as a self-assessment.

<http://obtinternlive.dnb.nl/3/50-229146.jsp>

# ORM reference framework / self-assessment

## For a bank with a standardized approach



Risk Culture	Criteria of Evaluation	Not comply	Partly comply	Almost comply	Fully comply	Not applicable	Explanation of score	Status
801	Board of directors, risk culture and risk awareness							COMPLETE
802	Code of conduct and staff integrity							COMPLETE
803	Operational risk training							COMPLETE
804	Personnel risk							COMPLETE
805	Risk taking incentives							COMPLETE

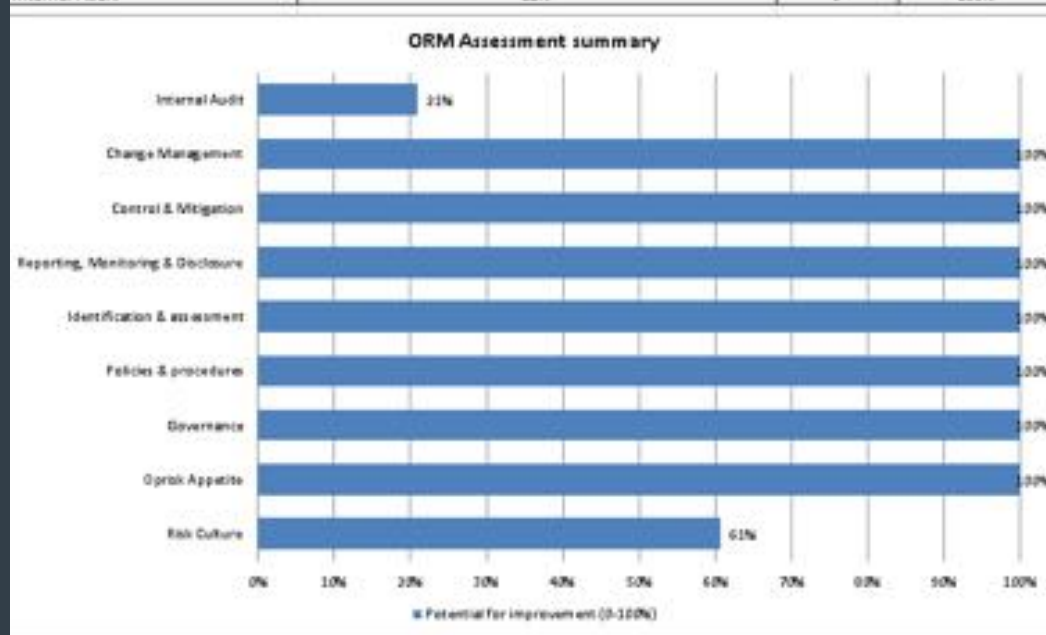
- The core including Change Management has already been worked in a self-assessment. Other components will be ready by begin 2016.
- Each component is worked out in one or more topics with related controls which can be scored ('not comply, partly comply', 'almost comply' or 'fully comply').



# ORM reference framework / self-assessment

Useful for communication, prioritization and insight

Assessment summary		-name of institution-	
High level overview			
Topic	Potential for improvement (0-100%)	Priority	% (correctly) filled in
Risk Culture	61%	8	100%
Risk Appetite	100%	1	0%
Governance	100%	1	0%
Policies & procedures	100%	1	0%
Identification & assessment	100%	1	0%
Reporting, Monitoring & Disclosure	100%	1	0%
Control & Mitigation	100%	1	0%
Change Management	100%	1	0%
Internal Audit	21%	9	100%



The results are presented in tables and graphs showing:

- Potential for improvement
- Priority
- % (correctly) filled in

Besides the overall level, this presentation is also available per component.

End of presentation.  
Thank you!