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Learning from successful operations

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Objectives


- Introduce some distinctions between success and failure and the relationship to normal variability
- A walk-through of some of the discussions in the project
- Introduce the concept of forward-looking sensemaking as a useful concept to understand successful operations
- Illustrate the need for models, concepts and tools to learn from success

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Warning!



Contents and thoughts developed by project team and master students

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Organisation - project personnel

Core team	PhD fellowships team	Resource team
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Safety I and Safety II

Why only look at what goes wrong?

Safety-I = Reduced number of adverse events.

Focus is on what goes wrong. Look for failures and malfunctions. Try to eliminate causes and improve barriers.

Safety and core business compete for resources. Learning only uses a fraction of the data available

Safety-II = Ability to succeed under varying conditions.


Focus is on what goes right. Use that to understand everyday performance, to do better and to be safer.

Safety and core business help each other. Learning uses most of the data available

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The project




The overall objective is to **develop knowledge, methods and guidelines** for prevention of major accidents through improved learning from successful operations in the petroleum industry.

Secondary objectives:


1. Develop **methods and guidelines** to analyse successful operations
2. **Analyse** a selection of **successful operations**
3. Identify **implications** for our **theoretical understanding** of safety
4. Identify **processes to support learning** from successful operations
5. Identify factors that respectively are **promoting or inhibiting** learning from successful operations

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Methods

- Case – exploration drilling
- Interviews onshore
- Interviews and observation on offshore drilling rigs
- Observation of simulator training (team training, major accident scenarios)

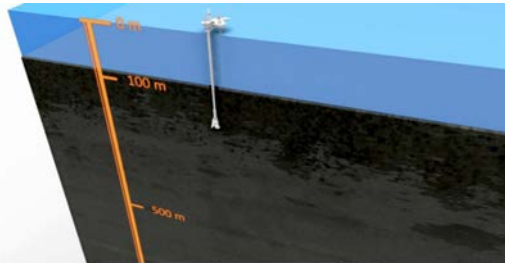
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What is an "operation"?

- When does an "operation" start?
 - Actual performance of safety-critical work?
 - Planning of safety-critical work?
 - Sharp-end planning
 - Blunt-end processes
- Do we include aspects of context when we consider the successfulness of operations?
 - Technical design
 - Human factors
 - Organization
- Do we include the possible influence of other operations (e.g. functional resonance)?

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Different units of analysis possible for the study of success



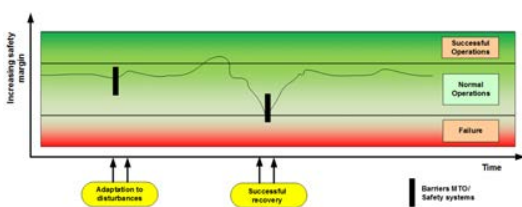
What characterizes a successful operation?

From interviews:

- Absence of negative consequences?
- An operation that is well-planned?
- When everything goes according to plan?
- When you are able to deal with particularly challenging circumstances?
- When you have a certain "flow" in your operations?
- When everybody does what they are supposed to (e.g. follow rules)?
- The operation stays within budget and time frames or exceeds such expectations?

Based on Thevik (2014)

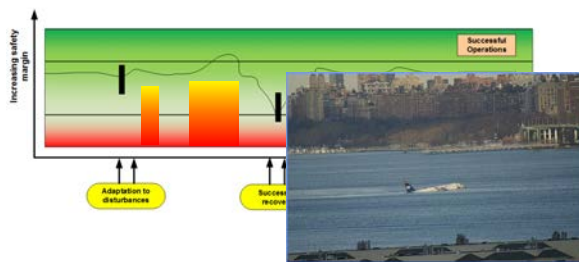
A simplified view on success, failure and variability



How well do we know our safety margins?



Success, failure and variability



Forward-looking sensemaking

- Sensemaking (Weick 1995) is a social process often involving non-human elements, such as transmitters, computer systems, technical documentation
 - "somebody making sense of something"
- Often a retrospective process: We choose an action and then try to construct a justification for that action, rather than the other way round.
- Successful operations are often characterized by actors displaying a form of forward-looking sensemaking
 - Thinking one step ahead
 - Envisioning possible outcomes of decisions and actions
 - High awareness of dilemmas
 - knowing the downsides of decisions
 - Preparing plan Bs and Cs



Source: Ragnar Rosness

Challenges to learning from successful operations



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Challenges to learning from successful operations

1. Investigations rarely discuss what prevented near-misses from becoming disasters, or accidents from escalating further
 - "The emergency preparedness organisation seems to have functioned properly"
2. How do you make people reflect on success when "nothing" has happened
 - Interviews vs. observation
 - When asked about safety, people tend to think about accidents

We have several theories, concepts and perspectives enabling us to describe, analyse and understand failure.
We lack the language and theoretical "infrastructure" to conceptualize success

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SINTEF SINTEF Technology and Society 18
