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28th - 29th March 2017

Pestana Chelsea Bridge Hotel; London, United Kingdom

Situational Project Management in Complex O&G Supply Networks

Advanced Project Management
for the Oil and Gas Industry

About Oliver

Oliver F. Lehmann, MSc, PMP

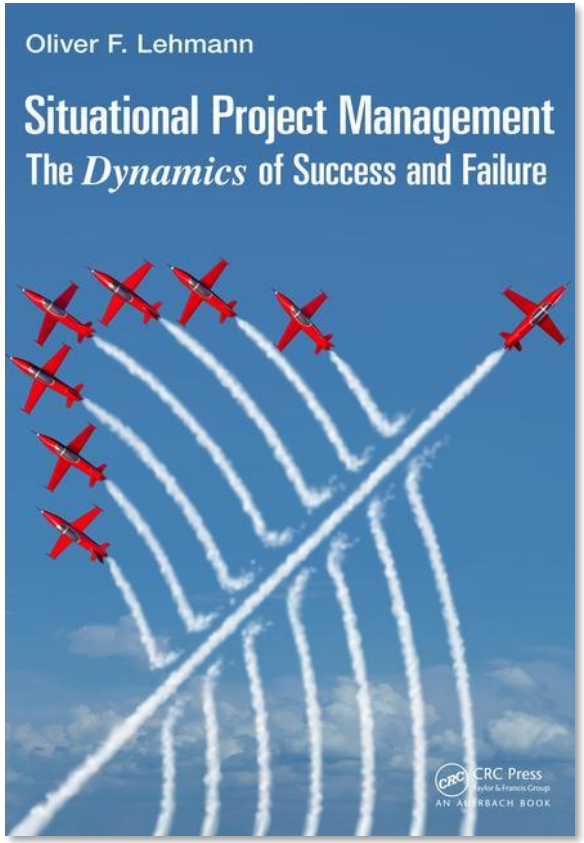
- Born 1957, married, 4 children, 2 grandchildren
- University studies in Stuttgart, Liverpool
- Degrees:
  - Master of Science in Project Management
  - Project Management Professional (PMP)
  - Connective Leadership Institute – Certified Associate (CLI-CA)
- PM Practitioner since ~1983
- Trainer since 1995 with assignments in Europe, Asia, and USA
- Adjunct Professor at Technische Universität München
- Active at the Project Management Institute (PMI®)
  - Member since 1998
  - Volunteer in various roles since 2001
  - President of the PMI Southern Germany Chapter e.V.

About Oliver

Oliver F. Lehmann
Project Management Training

Publications

- Book



- Papers

Situational Project Management in Complex O&G Supply Networks

Contents:

- Situational Project Management
- Complex Supply Networks
- The Challenge in Oil & Gas
- Case Study: A Rolling Award Fee Contract

Situational Project Management in Complex O&G Supply Networks

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Situational Project Management

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Two Approaches to Project Management

	"Best practice" approaches	Situational approaches
Basic assumption	"There are practices that lead to success in every project."	"A practice that was successful in a project may fail in another one."
Expectations on practitioners	Mastership of the "best practice"	Mastership of various practices
Practice applied	The "best practice"	The situationally most favorable practice

Situational Project Management

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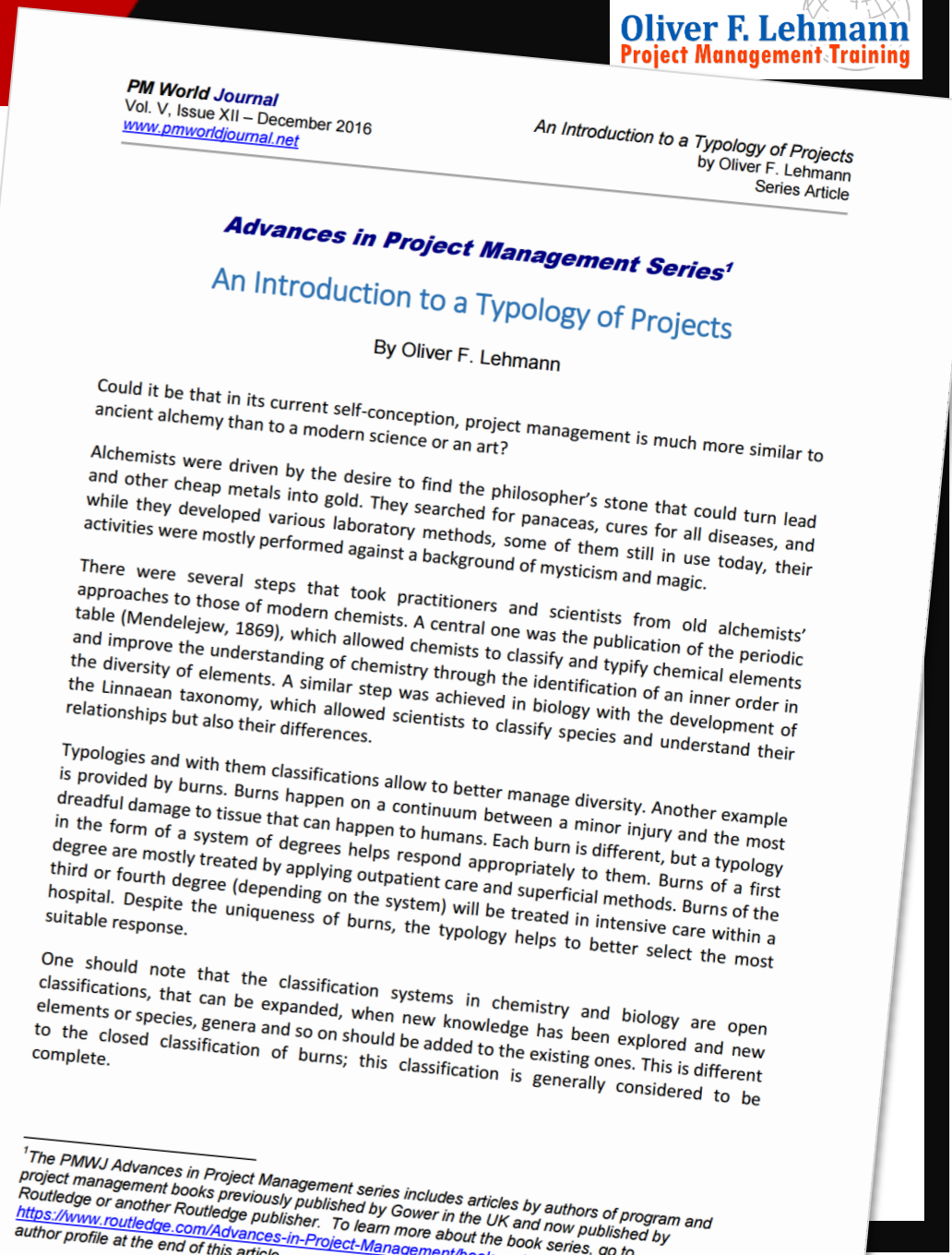
A Primer on Situational Project Management (SitPM)

- Free at PM World Journal
- Describes the development of a typology of projects

www.pmworldjournal.net/article/introduction-typology-projects



PM World Journal
Vol. V, Issue XII – December 2016
www.pmworldjournal.net

An Introduction to a Typology of Projects
by Oliver F. Lehmann
Series Article

Advances in Project Management Series[1]

An Introduction to a Typology of Projects

By Oliver F. Lehmann

Could it be that in its current self-conception, project management is much more similar to ancient alchemy than to a modern science or an art?

Alchemists were driven by the desire to find the philosopher's stone that could turn lead and other cheap metals into gold. They searched for panaceas, cures for all diseases, and while they developed various laboratory methods, some of them still in use today, their activities were mostly performed against a background of mysticism and magic.

There were several steps that took practitioners and scientists from old alchemists' approaches to those of modern chemists. A central one was the publication of the periodic table (Mendelejew, 1869), which allowed chemists to classify and typify chemical elements and improve the understanding of chemistry through the identification of an inner order in the diversity of elements. A similar step was achieved in biology with the development of the Linnaean taxonomy, which allowed scientists to classify species and understand their relationships but also their differences.

Typologies and with them classifications allow to better manage diversity. Another example is provided by burns. Burns happen on a continuum between a minor injury and the most dreadful damage to tissue that can happen to humans. Each burn is different, but a typology in the form of a system of degrees helps respond appropriately to them. Burns of a first degree are mostly treated by applying outpatient care and superficial methods. Burns of the third or fourth degree (depending on the system) will be treated in intensive care within a hospital. Despite the uniqueness of burns, the typology helps to better select the most suitable response.

One should note that the classification systems in chemistry and biology are open classifications, that can be expanded, when new knowledge has been explored and new elements or species, genera and so on should be added to the existing ones. This is different to the closed classification of burns; this classification is generally considered to be complete.

[1] The PMWJ Advances in Project Management series includes articles by authors of program and project management books previously published by Gower in the UK and now published by Routledge or another Routledge publisher. To learn more about the book series, go to https://www.routledge.com/Advances-in-Project-Management/book-series/ASHAIPM and to the author profile at the end of this article.

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Conclusion

Oil and gas companies should develop broadbased skills for Situational Project Management.

Situational Project Management in Complex O&G Supply Networks

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Complex Supply Networks

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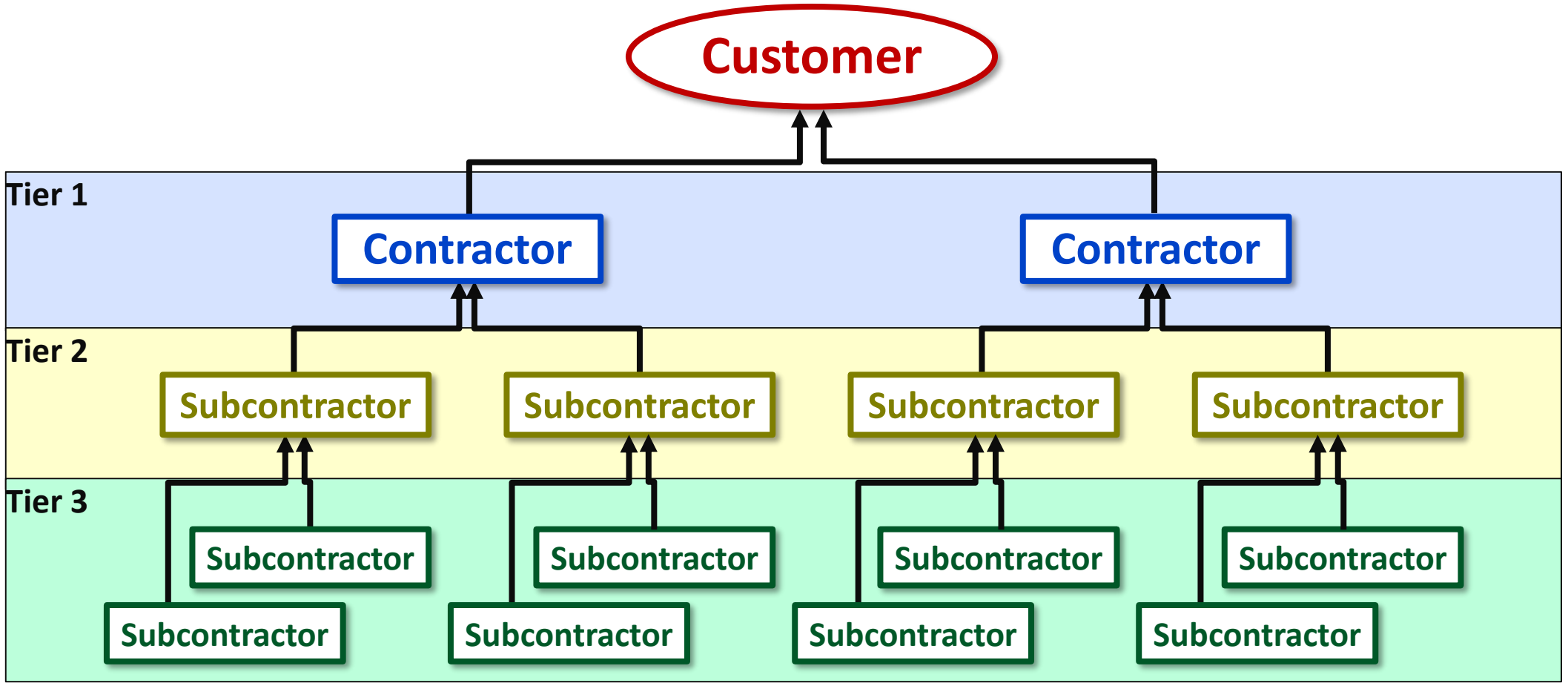
Challenges for Supply Networks in Projects

- Traditional: Simple multi-tier *supply chains*

Contractual relationship
Buyer → Seller



Complex Supply Networks

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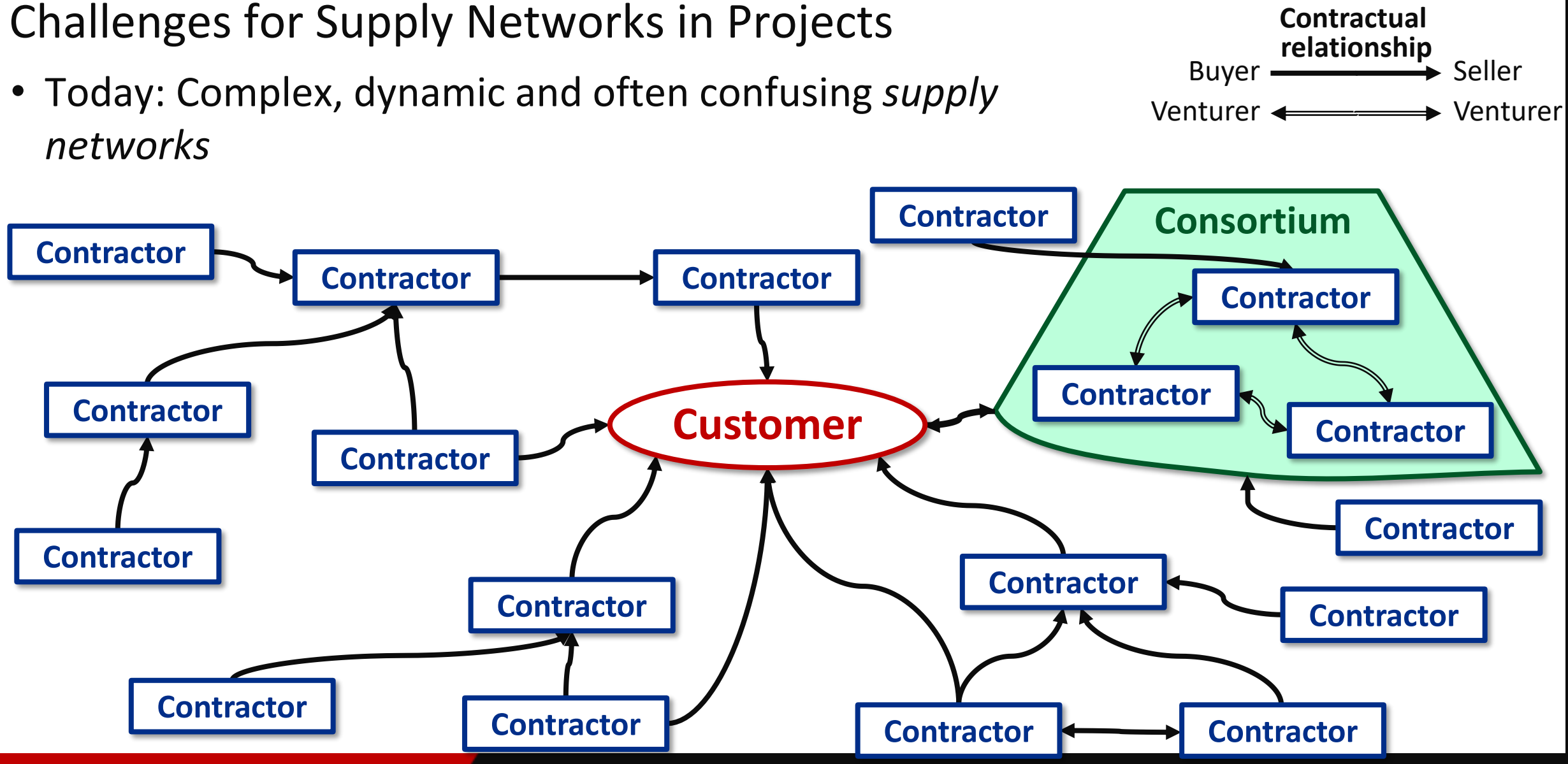
Challenges for Supply Networks in Projects

- Today: Complex, dynamic and often confusing *supply networks*



Complex Supply Networks

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Challenges for Supply Networks in Projects

- A problem in supply networks: Collaborative vs. competitive behavior

Conclusion

Oil and gas companies must manage complexity and dynamics in modern supply networks.

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The Challenge in Oil & Gas

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The Specific Challenge for Supply Networks in Oil and Gas

- The need for oil and gas will remain for a long time.
- The businesses must however respond to:

Race for high-speed development of disrupting technologies

Low prices -> reduced input of financial resources

Hazards -> Managing them more complex and expensive

Difficulties to lure young talents

Isolationism and climate change impacting the demand

Societal hostility towards Oil & Gas companies

The Challenge in Oil & Gas

The Market is Difficult

- We have enough fossil sources, but what about the demand?

"The Stone Age did not end for lack of stone, and the Oil Age will end long before the world runs out of oil."

Sheikh Ahmed Zaki Yamani
Saudi Arabian Oil Minister (1962 to 1986)

The Challenge in Oil & Gas

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Reduced Input of Financal Resources

- The masterminds of technological change are dedicated to further reduce the consumption of fossil energy sources.

Shell adds hundreds of jobs

David Bank Follow
Editor and CEO, ImpactAlpha
Feb 8 · 8 min read

Renewables are no longer 'al
Fossil fuels are 'legacy.'
In the great energy transition, which side a

Top alte
greener
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Rising environ
international at
energy demand
reduce dependence on fossil fu
crude oil prices, alternative fue
dependence on imported fuel.

Trump's Business Council Is a Who's Who of Renewable Energy Investors and Climate Champions

From BlackRock to General Motors to Wal-Mart, the members of Trump's business council are all in on renewables.

ne Future Of The
viation Industry

By Jon LeSage - Feb 27, 2017, 2:55 PM CST

Yeast Cell Factories Key to Sustainable Alternative
Fuels

- Digital Reporter - @RandDMagazine

Band
6:23 am

arch: Alternative Fuels Continue

The Challenge in Oil & Gas

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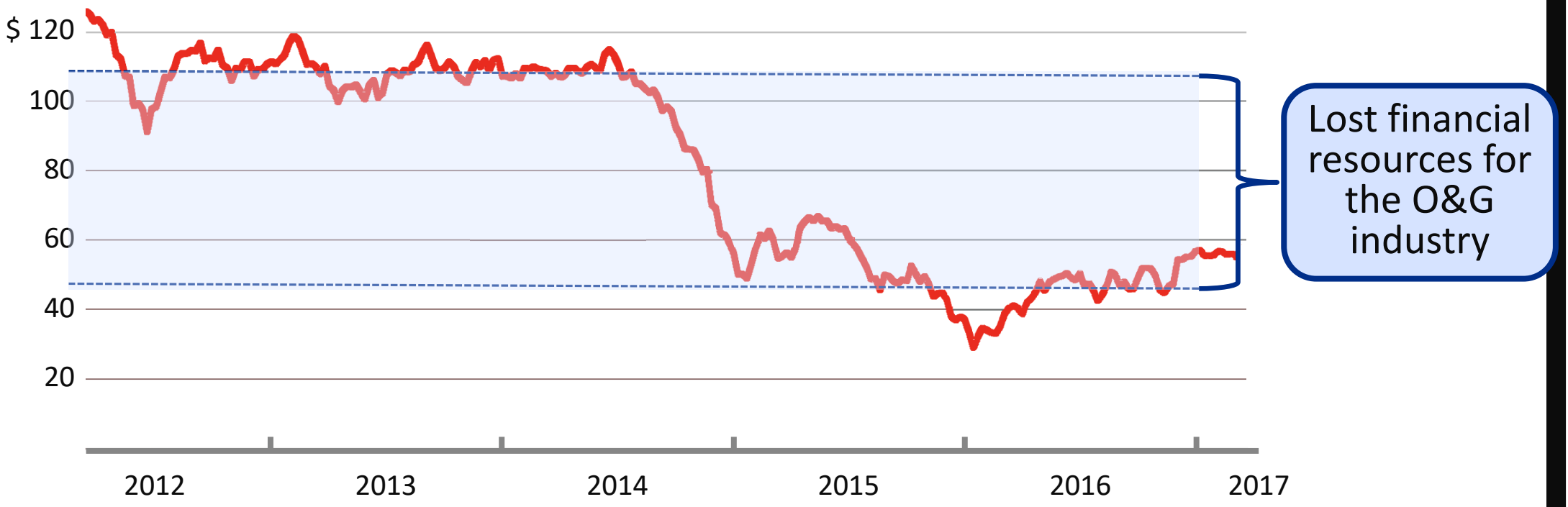
Reduced Input of Financal Resources

- Development of the Oil Price 2012 – 2013
- Brent Crude, price development per March 13, 2017



The Challenge in Oil & Gas

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Reduced Input of Young Talent

- Where do O&G firms rank in "*Forbes 100 Best Companies to Work For*"? (USA)?

Top 10

1. Google
2. Wegmans Food Markets
3. Boston Consulting
4. Baird
5. Edward Jones
6. Genentech
7. Ultimate Software
8. Salesforce
9. Acuity
10. Quicken Loans

O&G Companies

37. NuStar Energy
41. HilCorp

The Challenge in Oil & Gas

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Reduced Input of Young Talent

- Where do high potentials desire a future career?

The Challenge in Oil & Gas

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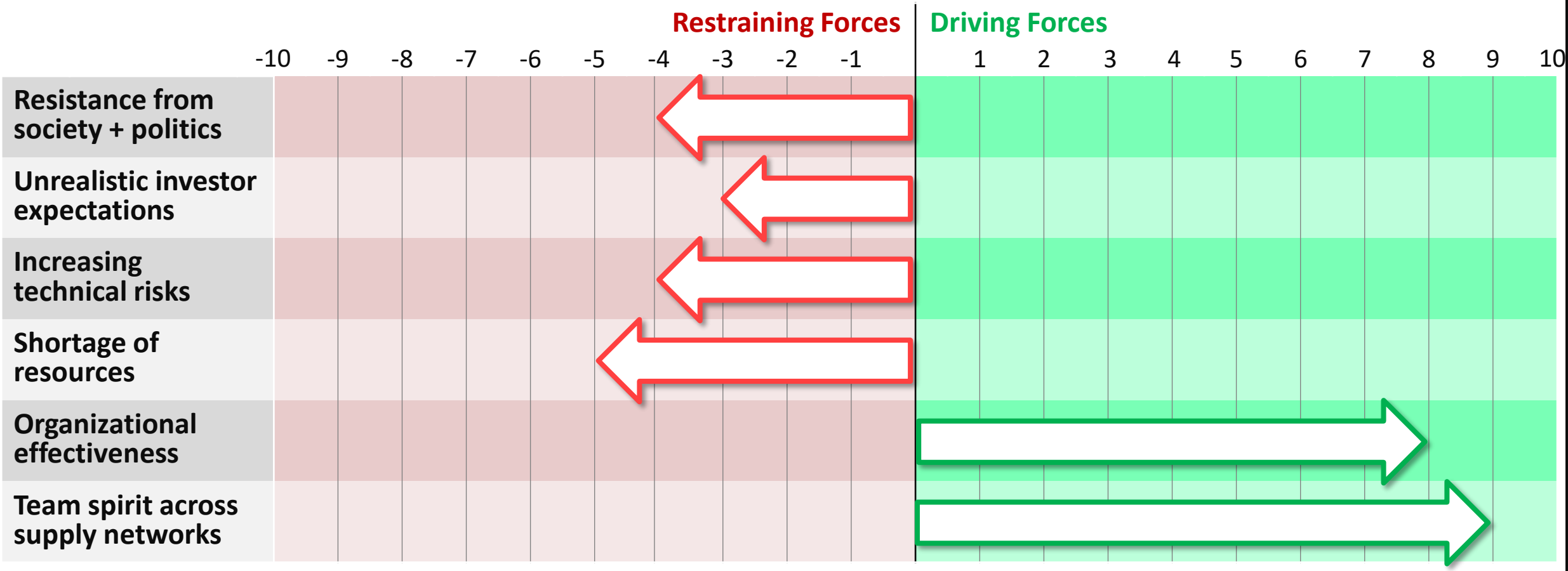
Today's Challenges for Supply Networks in Projects

- Force Field Analysis: Project managers in O&G must respond to challenges.



Conclusion

Oil and gas companies cannot survive with dysfunctional supply networks.

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- **Case Study: A Rolling Award Fee Contract**

Case Study

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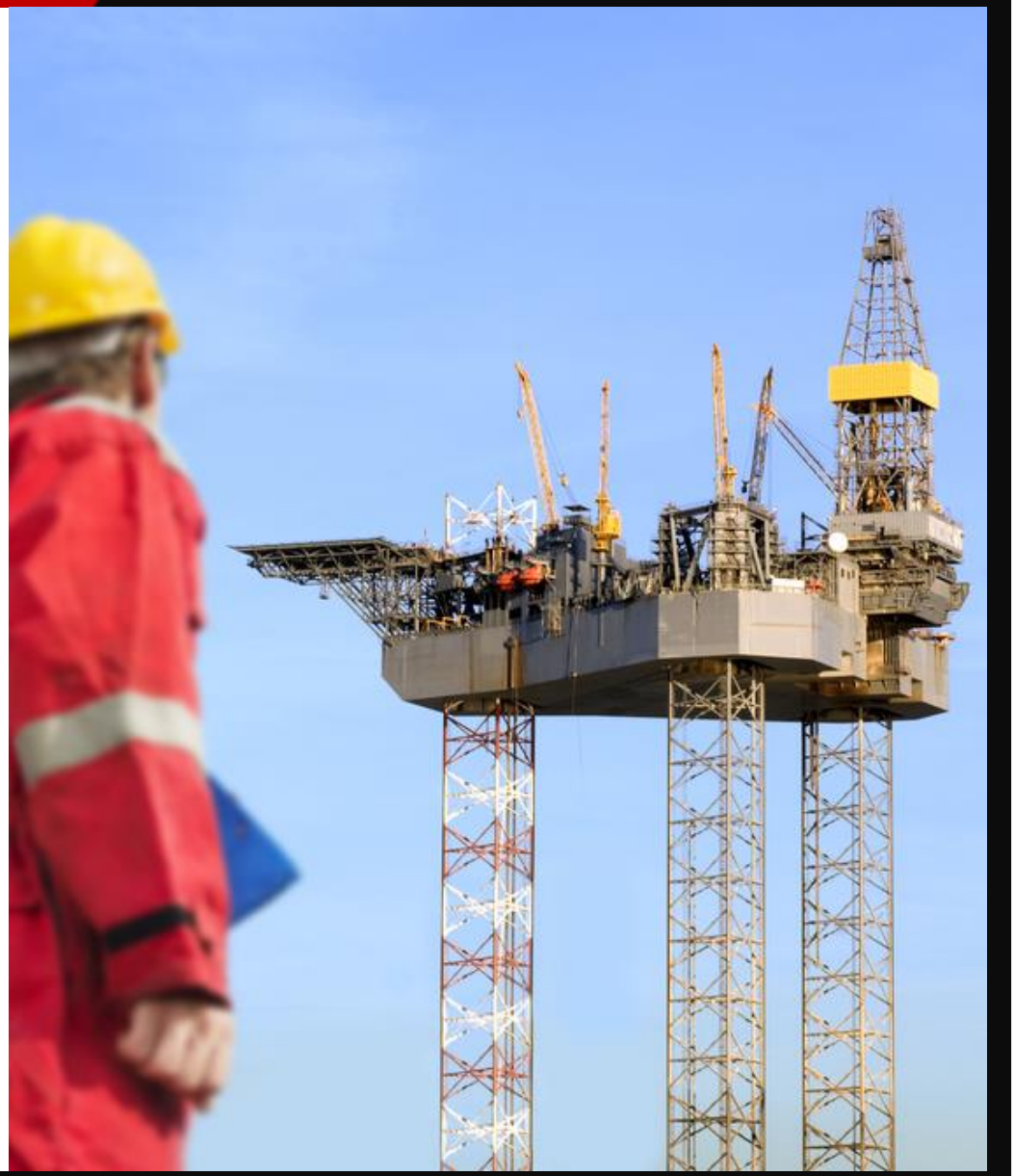
A Case Study of 2 Companies

- Customer: Spider Corp.*
  - Upstream O&G producer
- Contractor: Red Ant, Inc.*
  - On-site engineers
  - Selected after competitive IFB over an online B2B platform purely on price and references named



*: Names changed

Case Study

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Dissatisfaction with the Contractor

- Poor communications
- Sluggish and incapable workers
- Work left unorderly and unfinished
- Poor documentation
- "Runs too many projects at a time"
- Frequent need for rework
- Slow execution of task orders
- Safety hazards from shortcuts in execution
- Equipment in poor condition
- Inefficient use of resources
- Safety hazards from shortcuts in execution
- Surprising cost overruns (T&M)
- A perception of being blackmailed
- Delays of work completion
- Aggressive behavior against customer staff

*: Time and material

Case Study

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Dissatisfaction with the Customer

- Poor communications
- Late payments
- Late and incomplete provisions
- „Runs too many projects at a time“
- Unclear interfaces to other contractors
- Unclear task orders
- Scapegoating on contractor
- Aggressive behavior against contractor staff
- Site in poor condition
- Safety hazards for contractor‘s workers
- Inefficient use of resources
- Poor requirements specification
- Unpaid rework to fix customer‘s mistakes
- A perception of being blackmailed
- Delays of work starts

Case Study

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Root Cause Analysis

- Red Ant, Inc. (the contractor)
  - Had offered rates that do not cover the costs incurred by quality work.
  - Prioritizes other customers, who pay higher prices.
  - Avoids any communications and documentation that could be used against them in a lawsuit.
- Spider Corp. (the customer)
  - Has a shortage of staff to support the contractors.
  - Communicates the dissatisfaction in a demeaning style and language.
  - Threatens the contractor with legal action.
  - Avoids any communications and documentation that could be used against them in a lawsuit.

Case Study

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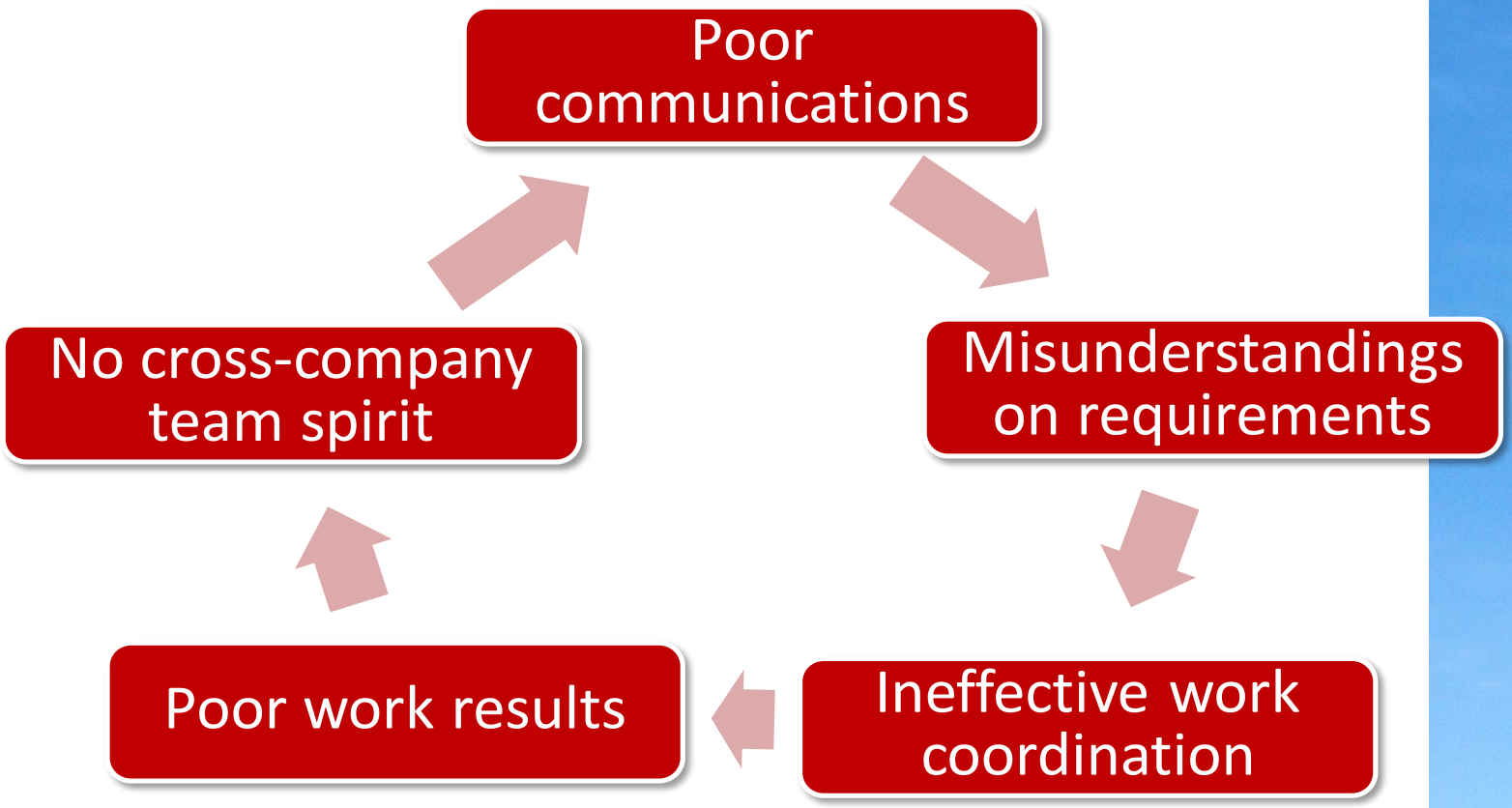
Vicious Circle Effects

- Budget overruns
- Safety hazards
- Rework
- Delays



Effects for the Project

The *Total Cost of Ownership* (TCO) of the business was impacted by the problems more than what was saved from the low T&M rates.

Case Study

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A Solution Workshop

- Development of a “Mission Success First” culture

⇩

- Move focus from multiple business interests to common project interest.

⇩

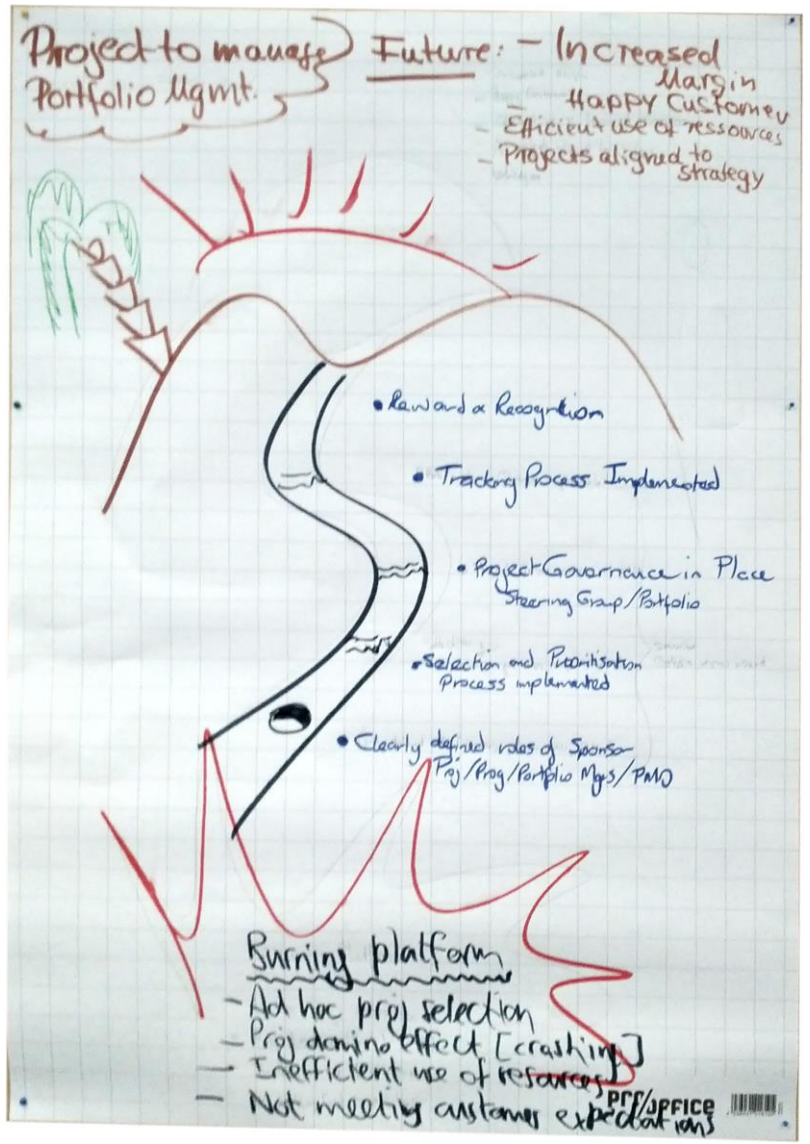
- Re-negotiating the contract.

⇩

- Adding an award fee clause to the T&M* contract.

⇩

- The award fee is based on monthly assessments.
- The award fee is also paid monthly.



Case Study

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Award Fee Contracts*

- The seller is reimbursed for all legitimate costs.
- The majority of the fee is earned
  - based on the satisfaction of subjective performance criteria incorporated into the contract.
- The determination of the fee is
  - Based on the subjective determination of seller performance by the buyer.
  - Generally not subject to appeals.

- Prerequisites
  - Parties are willing.
  - Provision of a formal budget (taken from the TCO savings expected)
- Advisable
  - A third party person as a mediator
  - Helping parties “getting over it”.

*: From “A Guide to the Project Management Body of Knowledge (*PMBOK*® Guide), 5th Edition”

Case Study

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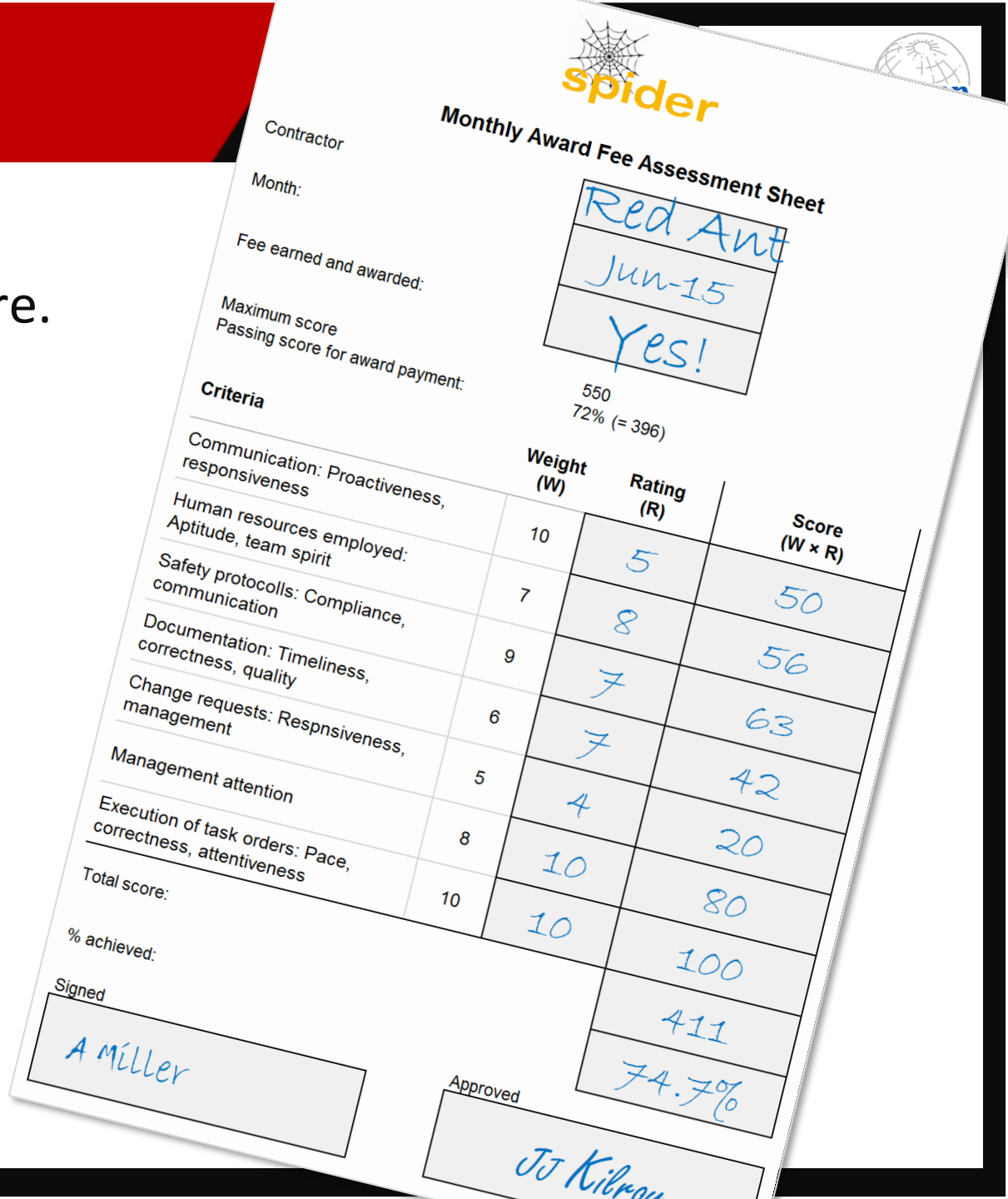
Weighted Assessment

- Performance criteria developed with internal team and contractor
  - Ideal number: 5 to 7 criteria
  - Maximum: 10 criteria
- Each criterion has
  - Weight: 1 to 10
  - Rating: 1 to 10
  - Score = Weight × Rating
- A simple system was installed for
  - Quick assessment at the end of the month, whether the award fee will be paid.
  - Provide an internal appeal mechanism, if the contractor feels that a decision is unjust.
- The assessment system is reviewed every three months for appropriateness and completeness.

Case Study

Weighted Assessment

- A passing score is assigned to the total score.
- The award fee gets paid for every month, when the score has been achieved.
- The award fee gets not paid, when the score has not been achieved.



spider

Monthly Award Fee Assessment Sheet

Contractor: Red Ant

Month: Jun-15

Fee earned and awarded: Yes!

Maximum score: 550

Passing score for award payment: 72% (= 396)

Criteria	Weight (W)	Rating (R)	Score (W × R)
Communication: Proactiveness, responsiveness	10	5	50
Human resources employed: Aptitude, team spirit	7	8	56
Safety protocolls: Compliance, communication	9	7	63
Documentation: Timeliness, correctness, quality	6	7	42
Change requests: Respnsiveness, management	5	4	20
Management attention	8	10	80
Execution of task orders: Pace, correctness, attentiveness	10	10	100
Total score:			411
% achieved:			74.7%

Signed: A Miller

Approved: JJ Kilroy

Case Study

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Benefits

- Good work by the contractor saves the customer money. The contractor receives a share of that.
- The contractor receives immediate performance feedback from the customer.
- The contractor knows where to improve.
- Paid award fees provide the contractor with financial resources needed for a better service.
- The contractor-side project manager has a business case for the support of a “Mission Success First” culture.

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"Mission Success First"

spider

RED ANT
Engineering

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Oil and gas companies need systems that help develop a "Mission Success First" culture in their projects.

The Rolling Award Fee contract is an example for that.

Situational Project Management in Complex O&G Supply Networks

Questions?

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Thank you!

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