DOFAS
Digital Oil Field Assessment Services

The Fifth Digital Oilfield Summit Forum & International Academic Conference (DOSFIAC 2017)

October 19-20, 2017   Qingdao, China

We got the vision wrong. We looked at IOF as a technology project. It never was

People are at the heart of IOF and must buy into the project across the organization

Key Note by: André Baken, October 2017
Qingdao, China

IO(F) is about the well-being of the asset, always.

Production optimization (and increase), and technology adoption are the consequences - not the goals - of implementing a successful vision

Bottom line this means:

People using better **technology and data** in **collaborative** and often **real time** settings make better and **safer decisions and take actions** (security, satisfaction, income...) in the interest of the asset.

Key Note by:
André Baken (58, Married, 2 daughters)

Expertise
- Senior Organizational Change Leader
- Senior Corporate Communications Director
- Senior Turn Around and Crisis Management Expert
- Advanced Leadership and Executive Coaching

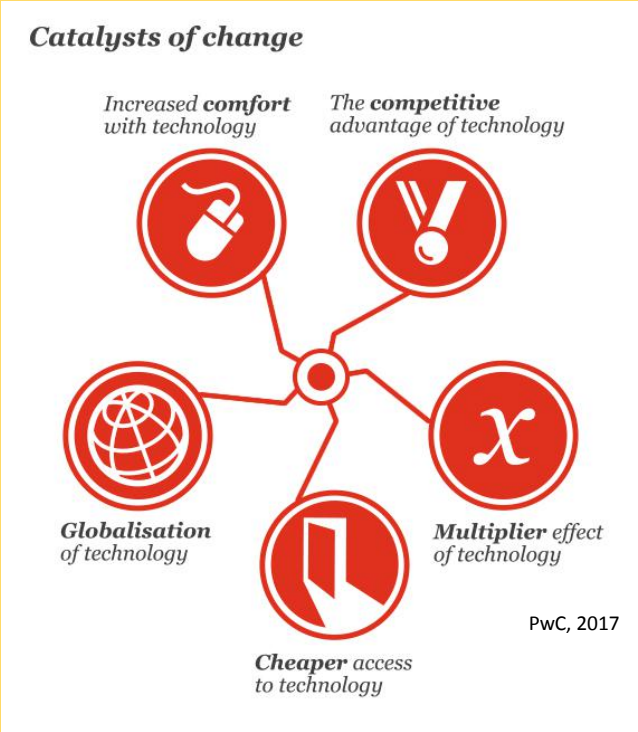# Experience: + 100 Projects done globally, since 2010 also O&G industry IOF projects.

André Baken

Do we have to get ready?
我们必须准备好吗？
disruption happens

Catalysts of change

Increased **comfort** with technology

The **competitive** advantage of technology

Globalisation of technology

Multiplier effect of technology

Cheaper access to technology

PwC, 2017

2011: 6 of 10 Largest companies are oil companies

2017: 1 of 10 Largest companies is an oil company

Data is the New Oil: The Oil Barons have been repalced by Technology Companies.

By definition, the largest companies by market cap are the most valued by investors in absolute terms. A snapshot of the largest companies at a given time tells us what the market valued the most.
Q1 2011 six of ten of the largest companies where in the oil business.
Fast foraward to Q1 2017: six tech companies in the top 10 and only one oil company left (Exxon)
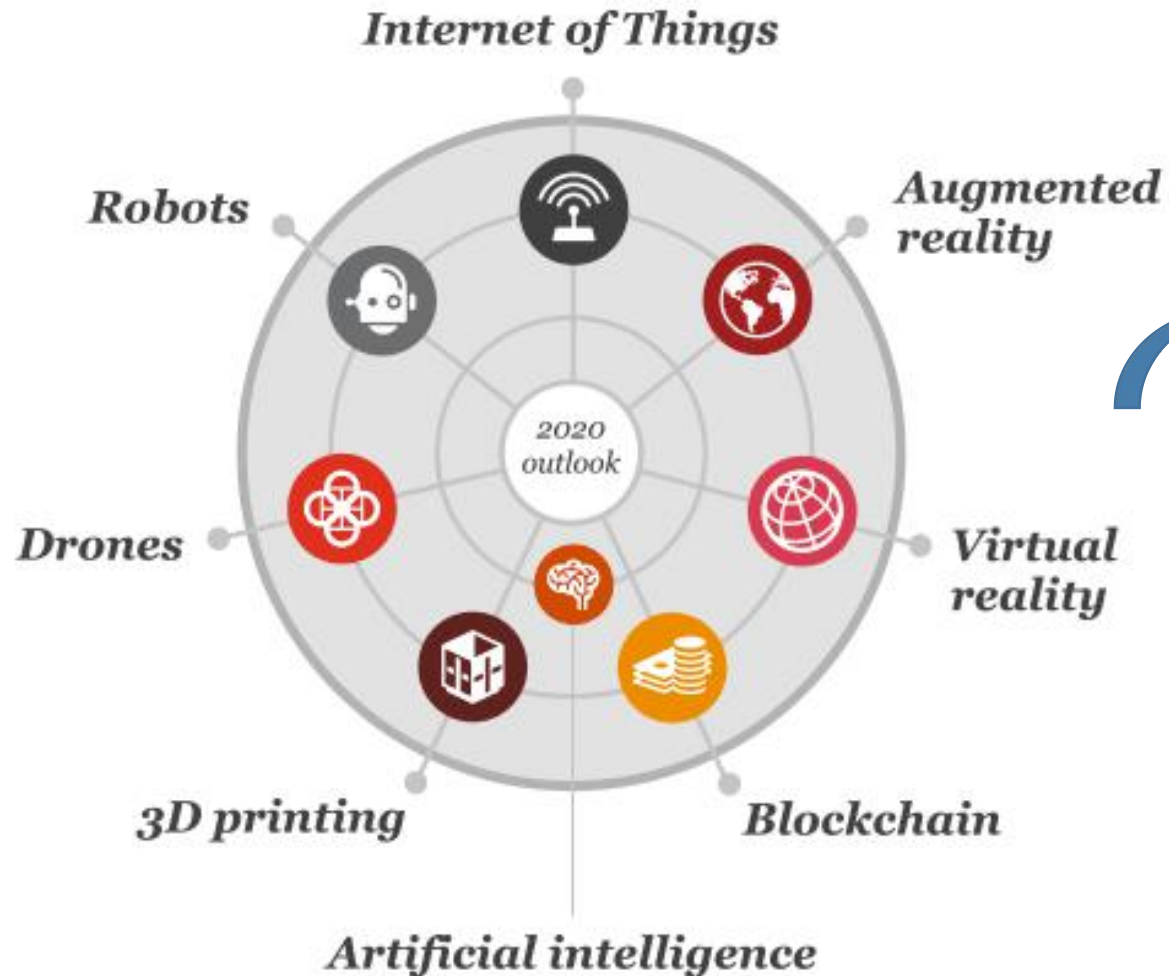
Top 10 2011-2017: Largest Companies by Market Cap (Hover to highlight)

Source: List of public corporations by market capitalization - Wikipedia

Top 10 Ranking
2011: 6 Oil & 2 Tech companies
2017: 6 Tech Companies for 1 Oil

Oil Companies
Other Sectors
Tech Companies

TOP 10 Market Cap
2011: 62% Oil & 20% Tech
2017: 70% Tech & 8% Oil

8%
70%
62%
51%
16%
20%

Which technologies would that be?
And how do they impact the business?

New technology should only be considered if it brings value to an existing workflow or if it enables a new one that is needed

Internet of Things

Robots

Augmented reality

2020 outlook

Drones

Virtual reality

3D printing

Blockchain

Artificial intelligence

Impacts on your business model

Technologies will have an impact across all five aspects

1. Strategy
2. Customer engagement
3. Operations
4. People and talent
5. Compliance

The IOF framework and what I prepared for you today
我今天为你准备的

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Speed of Change

Very Slow

Policy making (Policy driven)
- Country and company policies and other regional and sectorial, political and cultural influences

Slow

Operating Architecture (People driven)
- Leadership, the teams, competencies, organizational alignments, processes required for execution…The Culture

Normal

Business Architecture (Organization driven)
- The value, ROI, offering, business models, competitive strategy, etc. underlying the ultimate success of digital transformation

Quick

Technical Architecture (Technology driven)
- The technology, architecture, solutions, systems enabling the transformation

- ## Ways of Working
  - Leadership over Management
  - People over processes
  - Staff on demand
  - Culture of trust
  - Product centric innovation

Why is it important to understand Culture

为什么要了解文化呢？

GARTNER BENEFITS REALIZATION

Linking Culture and Performance

Kotter & Heskett: Study of 207 firms over an eleven year period, as reported in their bestseller "Corporate Culture and Performance"

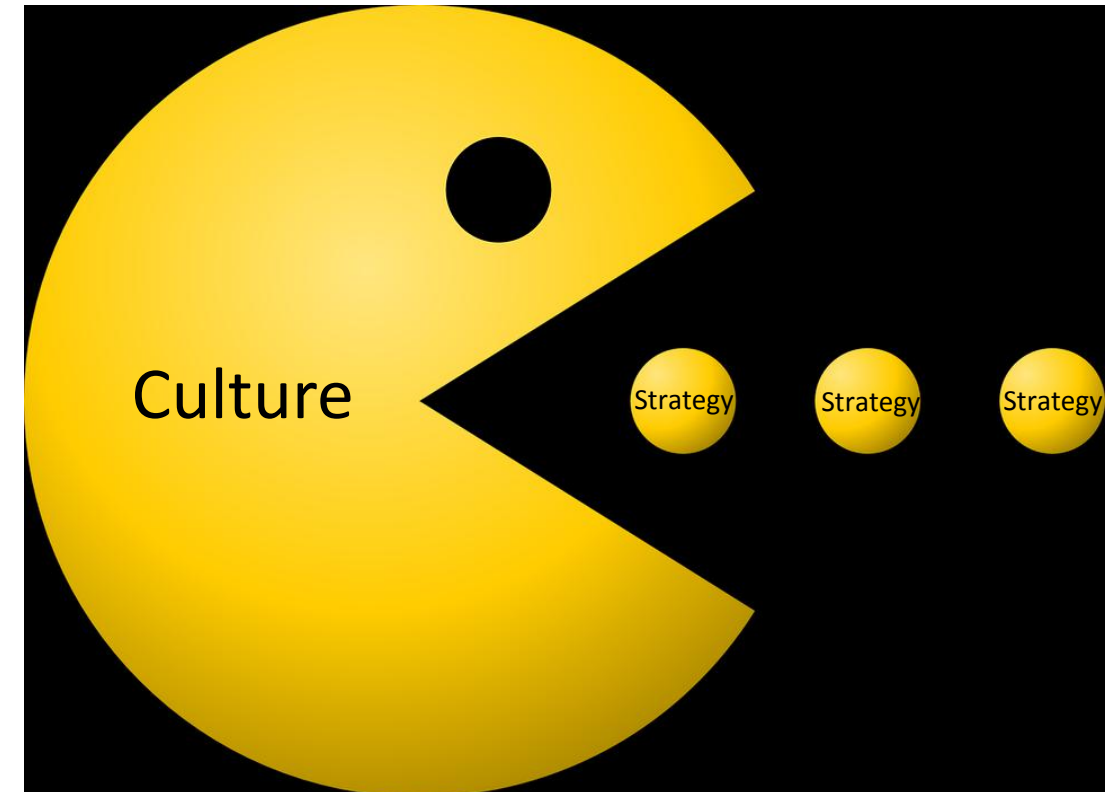|	Defensive Organisations	Constructive Organisations
Revenue	166%	682%
Share Prices	74%	901%
Net Income	1%	756%

Getting the best fruits is
a matter of Culture

... the way you work!

Nothing is happening!

- Success Rates of introducing

  New Technologies: 40%

  New Processes: 30%

  New Behaviors 19%

> **"Culture eats Strategy for Breakfast"**
>
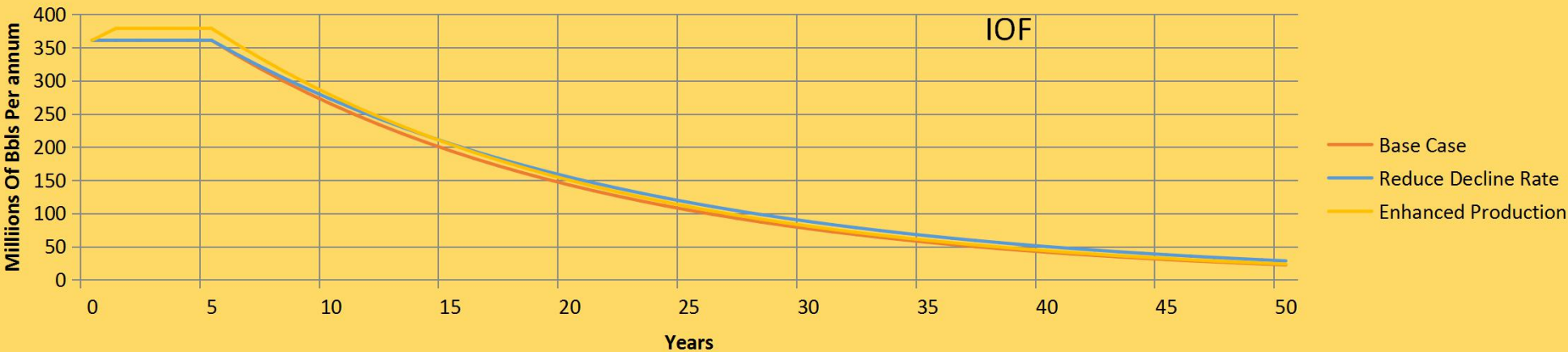> Peter Drucker

Source: Jos Voskuil

China Petroleum crude oil production

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IOF Project - induced gains		
Plateau Rate	989041	BOPD
Years remaining on plateau	5	
Decline Rate	6%	
Min. Economic Rate	2000	BOPD
Production Rate Enhancement	5%	
Decline Rate Reduction	0,5%	
Oil Price	47	$/Bbl
Discount Rate	7%	

IOF Potential China Petroleum =

36.688 MUSD

Production Profiles

IOF

- Base Case
- Reduce Decline Rate
- Enhanced Production

Base Case Total Recovery			Reduced Decline Rate				Enhanced Production		
		Incremental revenue	18.982	MUSD			17.760	MUSD	

China Petroleum IOF "Incremental Revenue Capacity" at 47 USD/barrel

IOF Project Value 10.970 MUSD

Categories	Score	Max. Score	% Score	Min Impact %	Max Impact %	Est. Impact (min) %	Est. Impact (max) %	$ Lost (MUSD) (min)	$ Lost (MUSD) (max)
Project Organization	91	364	25%	30%	30%	23%	23%	$ 2.468,25	$ 2.468,25
Technology	400	400	100%	30%	40%	0%	0%	$ -	$ -
People	100	400	25%	40%	70%	30%	53%	$ 3.291,00	$ 5.759,25
							Sum	$ 5.759,25	$ 8.227,50

Due to suboptimal Project Organization/Technology/People issues, your IOF risks delivering between
5.759 MUSD
and
8.228 MUSD
LESS than its full potential

Categories	Score	Max. Score	% Score	Min Impact %	Max Impact %	Est. Impact (min) %	Est. Impact (max) %	$ Lost (MUSD) (min)	$ Lost (MUSD) (max)
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							Sum	$ -	$ -

Due to suboptimal Project Organization/Technology/People issues, your IOF risks delivering between
- MUSD
and
- MUSD
LESS than its full potential

Technology Only

75% loss (27.516 MUSD) as a result of more
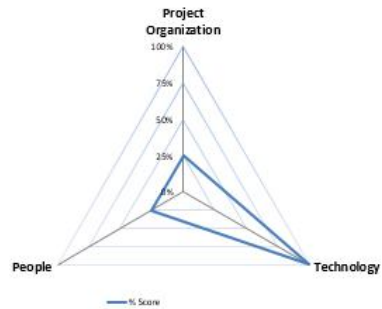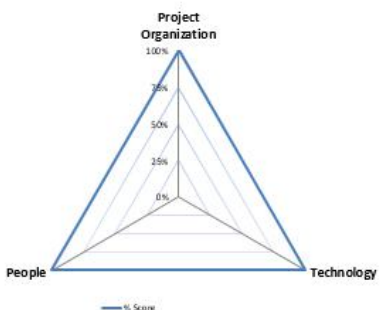Decline and less recovery
< 180.222 MCNY

Technology plus Organization

52% loss (19.067 MUSD)
< 124.898 MCNY

Technology + Org + People

Optimized decline rate and
Full potential recovery

The IOF Dilemma

IOF projects globally are still mainly Technology/IT –Asset focused

It is not understood how revenue can be made which leads to wrong visions

In uncertain times like this, many IOF projects around the globe are abandoned, on hold, or not started as not clearly identified as a solution.
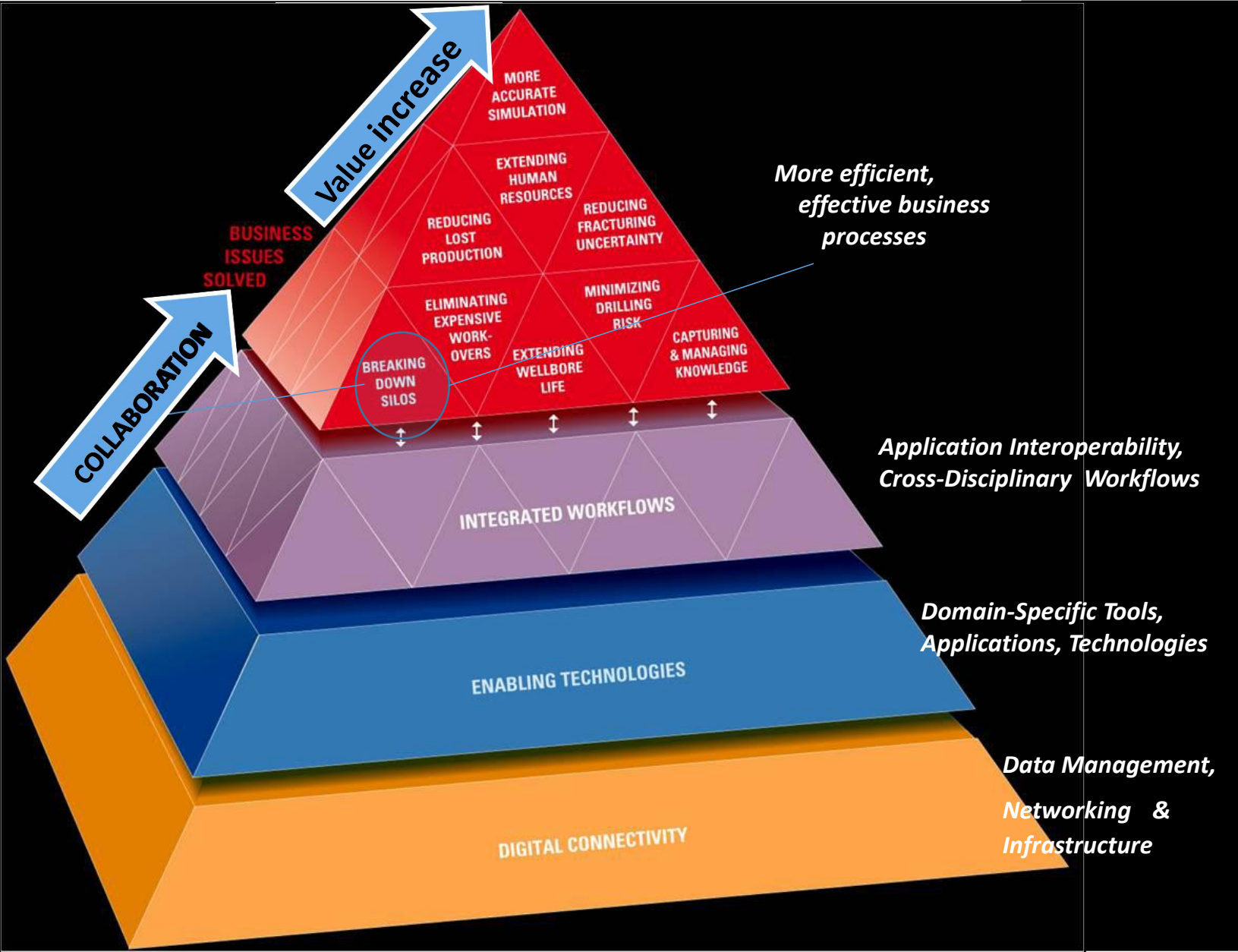
Once Boards understand that IOF projects should focus un asset well being in a holistic vision, they will also see **how revenues can be made with IOF**

The early visión of what was needed for IOF

Halliburton Pyramid

Changing mind set

IOF Digitalization roadmap last decade

Policy

People

Organization

100% of resources on
7 to 30% of outcomes

Technology

50%

Of O&G organisations made a mess, creating organisational, architectural, technical or process damage or dysfunction that has come with a high price to mitigate today or at some point in the near future.

IOF Digitalization roadmap today

Very Slow

Slow

Normal

Quick

Policy

People

Organization

Technology

Resources applied were needed for best results

75%

Of improved roadmap is a critical capability that combines the conventional capabilities of IT alongside a capability to respond to the level of uncertainty and the need for agility required for a digital transformation.

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Failure to Consider the more Complete Picture Could be Bad for More Than Just Business

Understand the design direction

Capabilities required

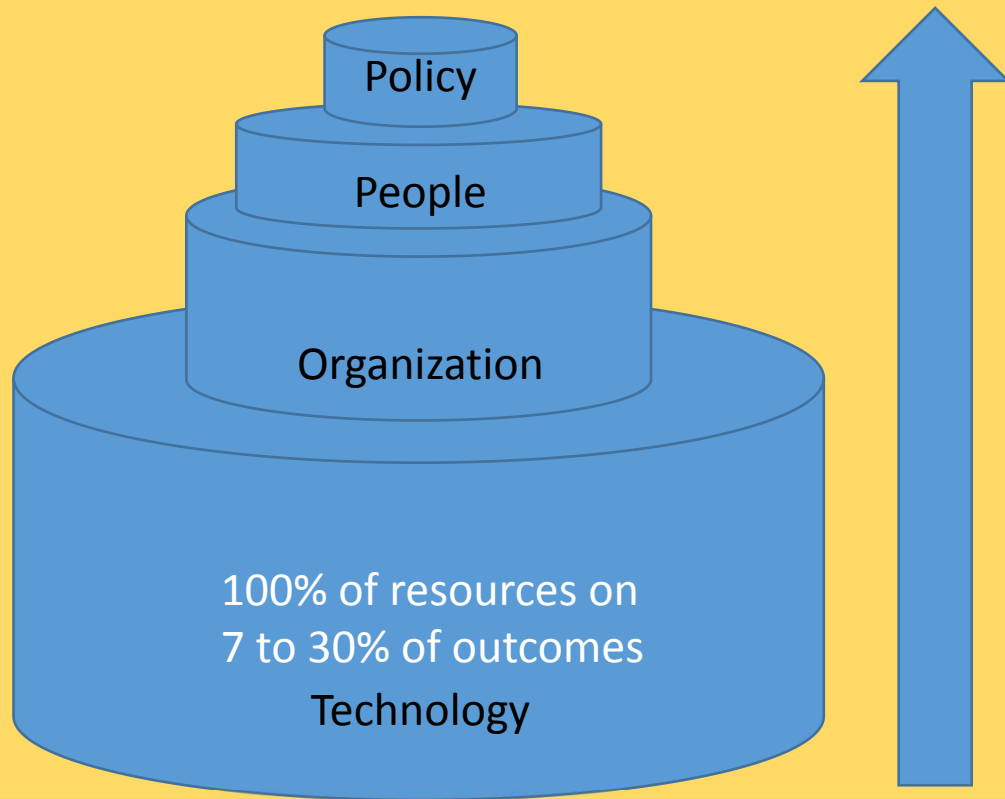**Teams and structures to support different speeds and new capabilities**

The most common mistake with IOF projects is to limit the participation and visibility of the requirements, objectives and updates to a couple of teams, usually the asset and IT

The new vision
Allow your organisation to keep up with changes while renovating the core. These are different speeds and needs

Existing mode

Reliability	Policy Price
IT-Centric	Plan driven, approval based
Long Term deals	Long cycles (months and years)

Agile Mode

Agility	Process- and outcome based
Short term deals (new, small vendors)	Short cycles (days, weeks…)
Business Centric (close to the customer)	Revenue, brand and customer experience

To adopt disruptive digital trends, oil companies need to initially work in both traditional and exploratory ways.
This can only happen when separated, but with a congruent single set of governance principles and strong leadership

What the faster mode needs

Areas

- Agile methodologies
- Multi disciplinary teams
- Adaptive sourcing
- Staying outside the existing IT
- Own funding
- Own innovation leadership and management
- Ability to work with start ups
- Own metrics were needed
- Agile subcultures

Capabilities

- Agile practice
- Innovation
- Mobile technologies
- Collaboration and Teamwork
- Big Data and Analytics
- Adaptability
- Conceptual and lateral thinking
- Business acumen
- Digital/UX Design
- Risk taking and mistake making
- Result orientation
- Accountability
- Digital literacy
- Decisiveness
- Global Mindset
- Entrepreneurship of workers

Comparison bimodal–based Digital Operating Model

Attribute	Current Centralized OM	Decentralized parallel DOM
Orientation	Big Bang Projects	Continuous Innovation
Organizational Emphasis	Centralized - Enterprise	Decentralized – BU, Service Line, Product and Feature
Budget	$1000K+	$100K or less
Risk	High project risks because of high budgets and long timelines. Not agile to change.	Low project risks with opportunity to experiment. Highly agile, built to change and adapt
Failure	Unacceptable	OK to fail (fail fast, fail forward)
Timeline	Measured in months or longer	Measured in days and weeks
Consensus	Executive level consensus, Board level sponsorship	Team level consensus, sponsorship at all levels
Effectiveness	Highly effective at mission critical objectives	Highly effective at Continuous improvement and innovation
Scalability	Not conducive to scale	Highly scalable

New rules for the Organizational Management

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Current centralized OM Rules

1. **Organized** for efficiency and effectiveness
2. **Company viewed as** a hierarchy, with hierarchical decision rights, structure and leadership progression
3. **Structure based on** business function, with functional leaders and global function groups
4. **Advancement through** promotion – upward, with many levels to progress through lines
5. **People** 'become leaders' through promotion
6. **Lead by** direction
7. **Culture** ruled by fear of failure and perceptions of others
8. Rules-**based**
9. Roles and job titles **clearly defined**
10. Process-**based**

New Digital OM Rules

1. Organized for **learning, innovation**, customer impact
2. Company viewed as an **agile network**, empowered by team leaders and **fueled by collaboration** and knowledge-sharing
3. Structure based on **work and projects**, with teams focused on products, customers and services
4. Advancement through many assignments, diverse experiences, and **multi-functional leadership** assignments
5. **People 'create followers'** to grow in influence and authority
6. Lead by **orchestration**
7. **Culture of safety**, abundance and importance of risk-taking and innovation
8. **Playbook**-based
9. **Teams and responsibilities clearly defined**, but roles and job titles change regularly
10. **Project**-based

By: Jen Taylor

Understand the design direction

Capabilities required

Teams and structures to support different speeds and new capabilities

Without the people's buy-in across the organization, there is no digital oilfield project

Teams and structures to support the *different working* modes *need other key working principles*

Principle	Description
Leadership Over Management	Mentorship and enablement leadership, more than management. Leaders focus on what problem needs to be solved, and let the teams figure out how to solve it.
People over process	Creating overlapping communities focused on objectives, work environment, skillsets, and interests, so they can freely experiment with tools and processes.
Staff on demand	Promoting self-organising, multi-disciplinary teams that can flow to where the high priority work is and where they are needed most
Culture of trust	Instil trust across the teams and delegate. Create a culture of empowerment over instruction, and less about owning and more about sharing. Teams do their own checks and controls
Product-centric innovation	Product-focused perspective that enables the achievement of long-term and continuously improving goals in alignment with a strong culture of experimentation, balancing the risk/ reward tradeoff and values organizational and personal learning above all

Leadership over Management

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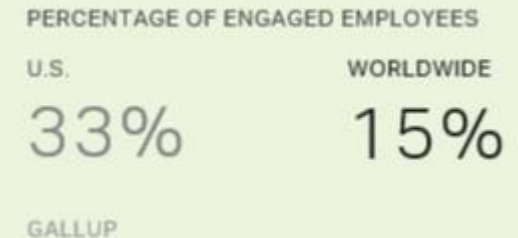Digital Oil Field Assessment Services

finding the right people to lead change is half of the solution

Leadership is key. Where are we with leadership?

Recent global research shows

- ✓ 73% of employees are **disengaged** right now
- ✓ 75% of employees see leaders as **ineffective**
- ✓ 78% think leaders don't take appropriate **responsibility**
- ✓ 70% of managers does **not communicate efficiently** and effective as per their employees
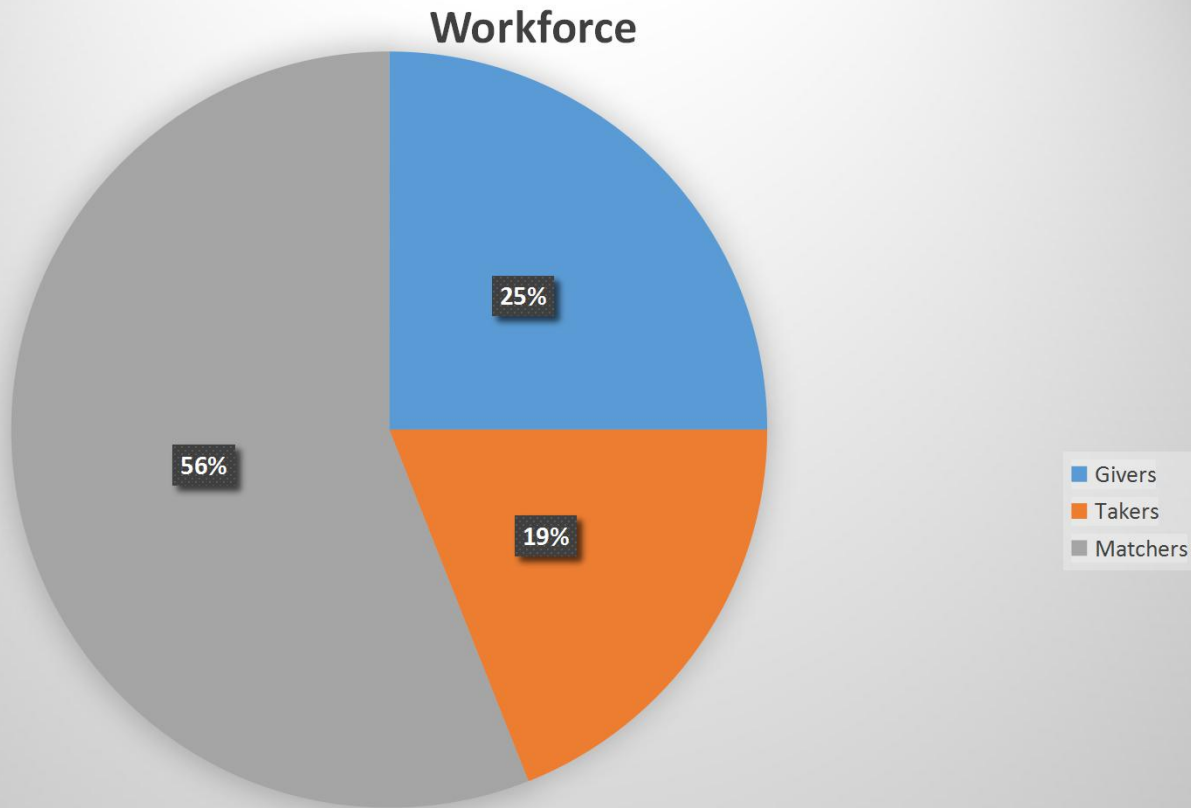
GALLUP

PERCENTAGE OF ENGAGED EMPLOYEES

U.S.   WORLDWIDE

33%   15%

GALLUP

What employees expect (and don't get)
from their leaders:
- **Trust**worthiness
- **Lead** by example
- **Communicate**
- Admit mistakes
- Quality

KETCHUM LEADERSHIP COMMUNICATION MONITOR 2016
BREAKING THROUGH PERSISTENT BARRIERS TO LEADERSHIP
A FIVE-YEAR WORLDVIEW

Takers or Givers

Workforce

- Givers: 25%
- Takers: 19%
- Matchers: 56%
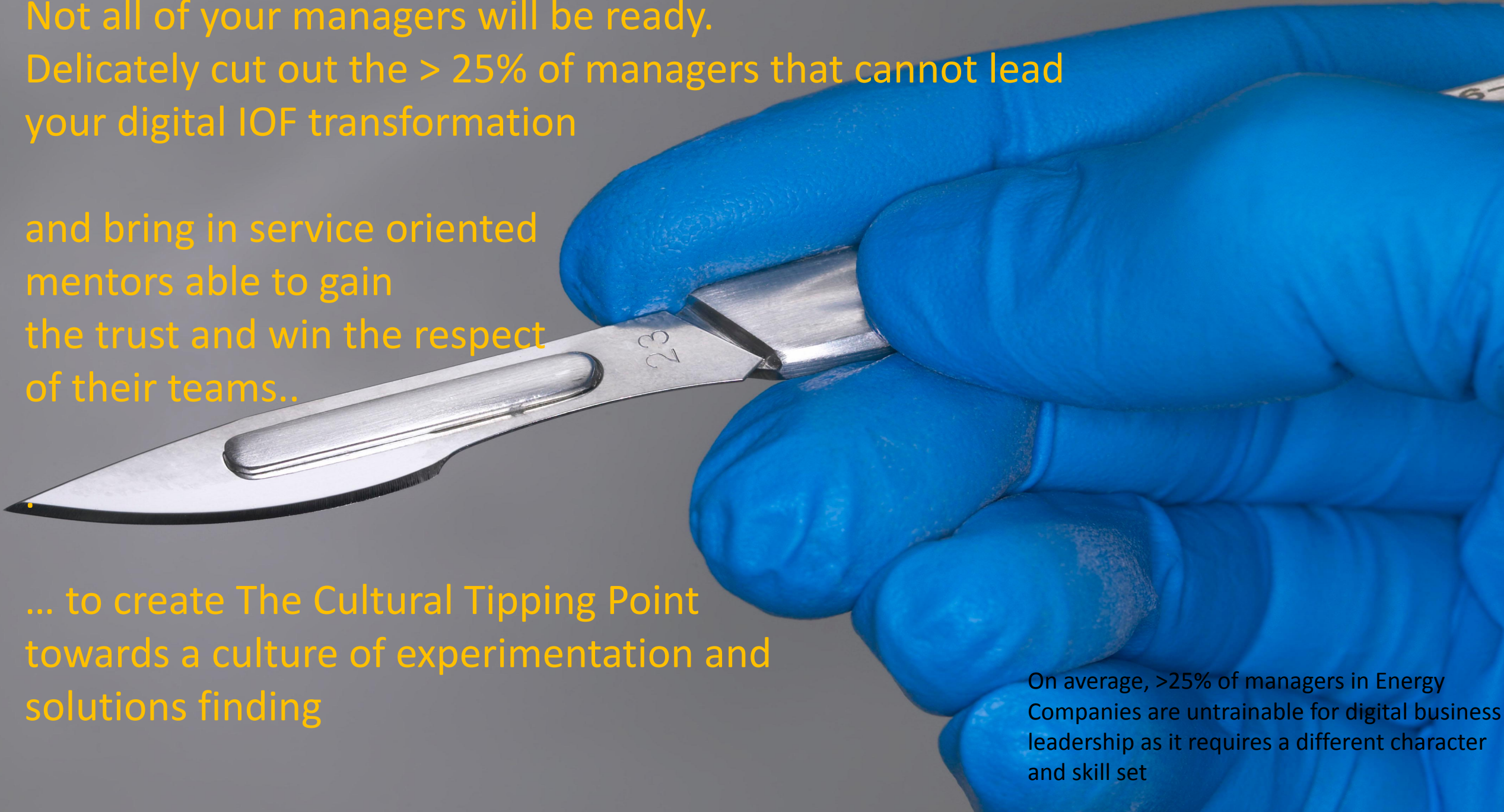
~~get~~ the ~~right~~ people ~~on~~ the bus

keep the wrong people off the bus!

Adam Grant, 2017

Not all of your managers will be ready.
Delicately cut out the > 25% of managers that cannot lead
your digital IOF transformation

and bring in service oriented
mentors able to gain
the trust and win the respect
of their teams..
.

... to create The Cultural Tipping Point
towards a culture of experimentation and
solutions finding

On average, >25% of managers in Energy
Companies are untrainable for digital business
leadership as it requires a different character
and skill set

And move on with the leadership able and willing to learn new styles and culture: "Improvement begins with I"
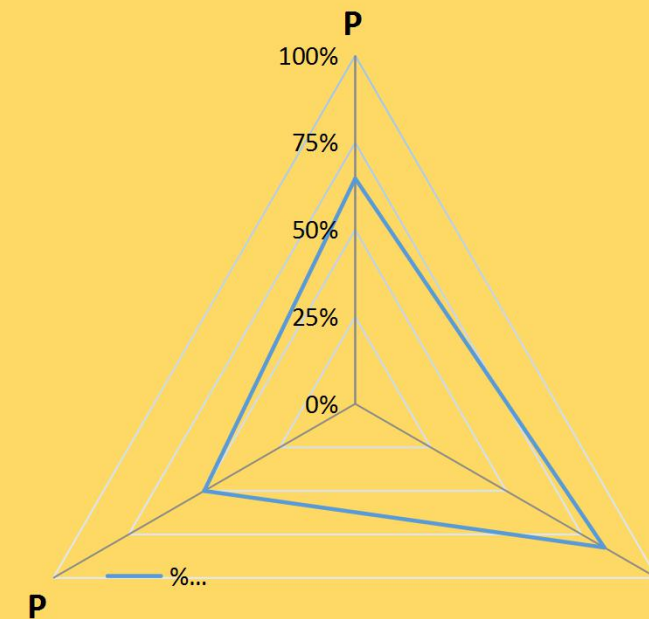
It can be done… if you want it

Resuming

- Digitization isn't about data, it's about **(cultural and organizational) change** (and transition) that affect technology, business, operations and policies

- Real gains are expressed in billions, not in millions, and come from an **integrated, holistic** approach between all four layers that creates **Operational room** for improvement of Way of Working, Culture, Organization and Working Styles

- **Finding (and preparing) the right leaders** (throughout the whole chain of command) is the key success driver as they will leverage the right actions on the right moments and right levels

- **Identifying and letting go of the "wrong" leaders** is also imperative to success.

- **Investments are a fraction of envisioned outcomes. Wins** from such balanced approach will be significant, even at lowest barrel prices.

IOF Project Health

P
100%
75%
50%
25%
0%
P
%...

感谢您的关注
Thank you for your attention

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