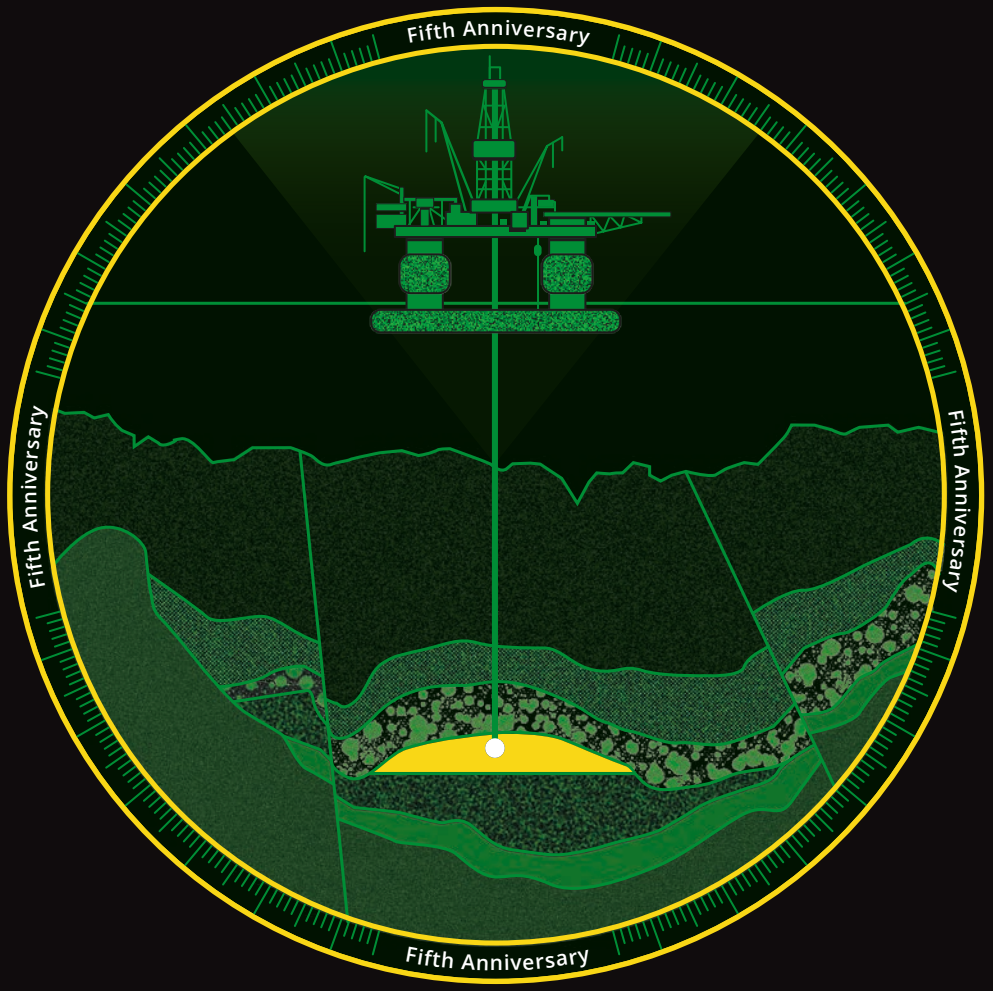
Deloitte.

OGUK



From strategy to action – overcoming barriers to change

UKCS upstream supply chain collaboration survey 2019

December 2019

Contents

About this report
The report is based on the results of a confidential electronic survey conducted with industry participants in the UK Continental Shelf (UKCS) from July to September 2019. The data and analysis of the results are presented in the report anonymously in an aggregated format.

There were 262 respondents to the survey. The majority came from operations and engineering/projects functions, followed by logistics, procurement/tendering and sales/business development with a small minority from back office – finance, HR and legal. The majority were senior managers, followed by managers, executives, specialists and board members.

In this publication, references to Deloitte are references to Deloitte LLP, the UK affiliate of Deloitte NSE LLP, a member firm of Deloitte Touche Tohmatsu Limited.

Foreword

Welcome to the fifth edition of the UKCS upstream supply chain collaboration review and index.

Our celebratory edition reflects on the industry's collaboration journey over the past five years in response to the changing operating environment.

The UKCS has come a long way since 2015. Then we reported record low total production, low production efficiency, high costs and falling oil prices. A harmful combination for the ageing basin's attractiveness to investors, but one that has prompted most companies to focus on cost control. Today's total production is 20 per cent higher than it was five years ago and production efficiency has also improved by 10 per cent to reach 75 per cent in 2019. Oil prices have been hovering between $55 and $70/barrel for the past three years, giving companies time to adjust. In addition, a number of assets have changed hands and ownership by private equity-backed entities has increased.

There is a general sense of business gradually picking up across the basin in 2019, with exploration, appraisal and development well drilling activity all rising compared with last year.

But there are some challenges, too. The mid-term oil price is under pressure from a sluggish global growth outlook that may lead to an oversupplied market. Closer to home, supply chain companies in the UKCS are still reeling from years of aggressive cost reduction programmes that have limited their ability to invest in asset upgrades and innovation. The oil and gas sector also needs to define its role in energy transition and in supporting the UK's efforts to reach net zero targets by 2050.

In 2014 the Wood Report highlighted the critical role that supply chain collaboration needed to play in transforming business performance in the UKCS. With activity picking up, companies need to focus on maintaining performance and efficiency improvements to avoid costs spiraling out of control as experienced in previous cycles. If anything, supply chain collaboration needs to increase to maintain that focus.

OGUK and Deloitte have once again worked together to produce this year's Review and Index, which is based on a survey conducted from July to September 2019. The partnership of OGUK and Deloitte provides a unique combination of industry engagement with a trusted survey and analytics capability – ensuring good participation and insight for the industry. We are pleased that survey participation has increased by 63 per cent from 2018.

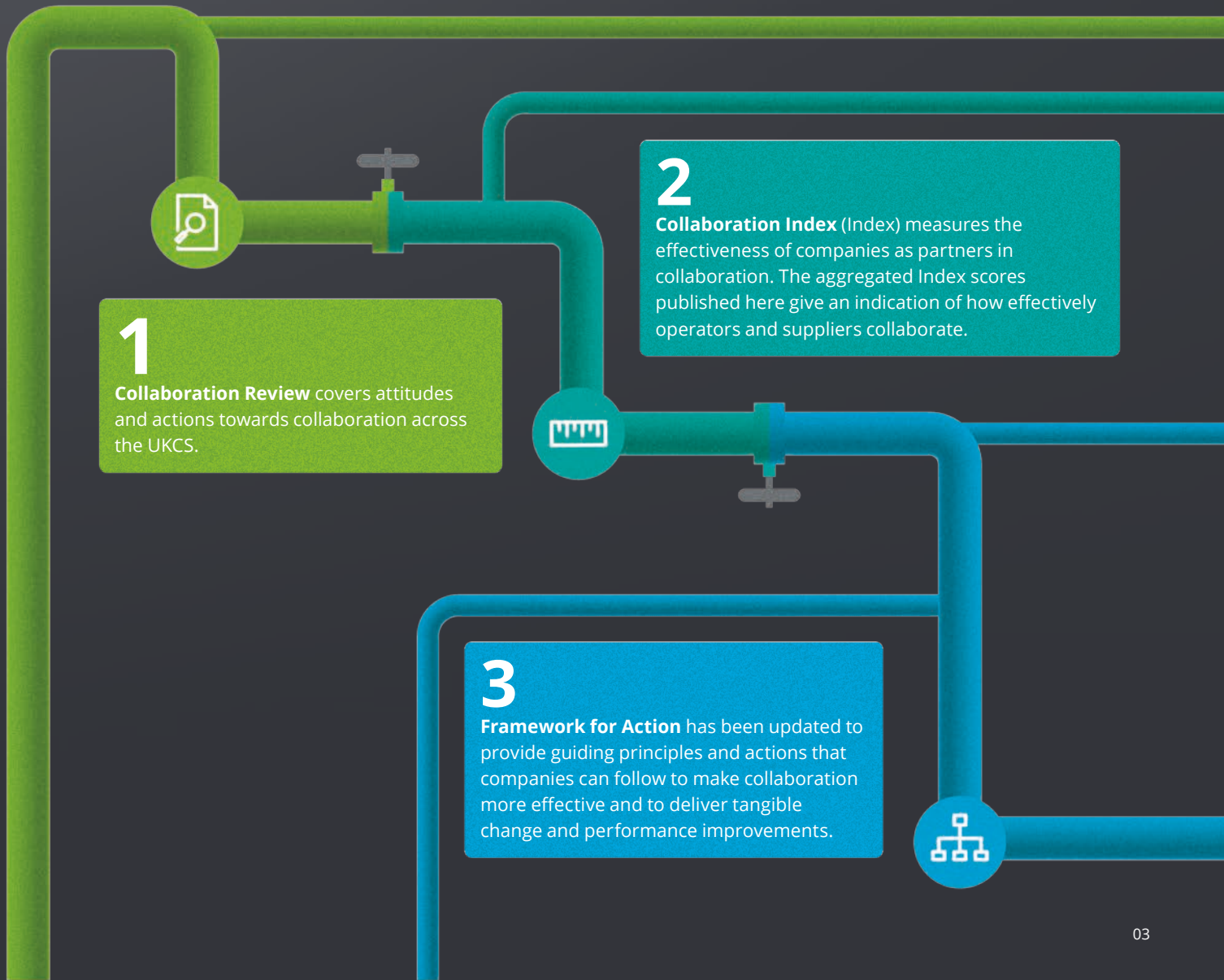
We are also including three collaboration case studies to bring successful collaboration efforts to life.

We would like to thank OGUK for their continuing support and, equally important, the survey participants for sharing their views.

I hope you find this year's report insightful and helpful and, as ever, we welcome your feedback and comments.

Graham Hollis
Office Senior Partner, Aberdeen

As with previous years, the 2019 report has three main parts:



1

Collaboration Review covers attitudes and actions towards collaboration across the UKCS.

2

Collaboration Index (Index) measures the effectiveness of companies as partners in collaboration. The aggregated Index scores published here give an indication of how effectively operators and suppliers collaborate.

3

Framework for Action has been updated to provide guiding principles and actions that companies can follow to make collaboration more effective and to deliver tangible change and performance improvements.

Executive summary

Executive summary

The results of our fifth annual survey again show strong support for collaboration on a leadership level. However, for collaboration to become more prevalent across the UKCS, companies need to empower change at all levels of the organisation.

The industry-wide Collaboration Index (CI) registered its first drop since the start of the survey five years ago. It reduced slightly to 7.0 in 2019 from 7.1 in 2018. The drop is due to a lower supplier CI score (7.0 in 2019 compared with 7.2 in 2018), meaning that suppliers were seen as being less engaged and less willing to collaborate by the operator community during the year. Some respondents pointed at 'supplier fatigue'. Some oilfield services companies can no longer reduce their prices while others are disappointed that operators had promised them new ways of engaging around projects, which have not materialised.

Although the drop in the overall CI score is small, it could still be a warning sign. As activity picks up across the basin, it will be easy to slip back to the old ways of working. However, if the industry wants to avoid a future skills and equipment crunch and the subsequent price escalation, companies need to find simpler and more effective ways of working together.

We believe that this can be done by fostering an open and collaborative business culture and mindset, underpinned by strong, supportive leadership and aligned processes and systems. Companies need to decide where within the organisation collaboration will have the greatest impact and ensure they have a clear strategy and operating model as well as the right business systems and processes to execute it. A collaborative project can only be successful if it receives support at all levels of the organisation.

Companies need to decide where within the organisation collaboration will have the greatest impact and ensure they have a clear strategy and operating model as well as the right business systems and processes to execute it.

Therefore, this year's report takes a fresh approach to analysis and examines the industry's progress against three key pillars for successful collaboration to highlight areas where further focus is needed:

1. Collaborative mindset and business culture – strong industry commitment

The results continue to show strong support for collaboration across the UKCS. Over the last five years, on average, more than 90 per cent of respondents expressed a commitment to collaboration and 2019 was no different. Clearly, support for collaboration is now the norm: the industry agrees that better supplier relationships are crucial for company success now and in the future.

The strong focus on cost reduction seen over the past five years seems to be shifting towards sharing knowledge/learning. This shift is primarily driven by operator behaviour. Many operators have finished the aggressive cost reduction programmes that followed the fall of oil prices and are now seeking value by investing in innovation and new ways of working.

But despite the strong commitment and positive shift in focus, companies still find it difficult to make a step change in improving their collaborative relationships. While the proportion of respondents saying that more than half of their efforts to collaborate were successful increased from 27 per cent in 2015 to 37 per cent in 2019, the figure is only marginally better than last year.

2. Strategy and business models – more action needed

We believe the main reason for the lack of significant improvement in collaboration success levels is that companies are finding it hard to translate strategy into action. Only a small number of people within organisations seem to have the capability and opportunity to form and maintain collaborative relationships, while for most companies business strategy, leadership and incentivising their workforce to collaborate continue to play a very subdued role in driving successful collaboration.

3. Business systems and processes enabling collaboration with suppliers – significantly more action needed

Moving from strategy to more effective working relationships between operators and suppliers is hindered by a number of barriers. Most of these relate to company legacy structures, outdated ways of working, bureaucracy and process complexity. Onerous and complex contracts, and procurement processes in particular, have been singled out by both operators and suppliers as preventing them from establishing more direct and straightforward working relationships.

Many of these barriers are difficult to overcome without major transformational programmes that can require substantial time and effort, but they should result in leaner, more agile organisational structures and stronger relationships with suppliers or customers. Many companies are making progress, but they need to find ways to accelerate the rate of change.

One way to accelerate the speed of change further is through the increased use of digital technologies. The targeted use of new technology to support incremental change can have a significant impact and help start the transformation process, building support and momentum without the need for substantial upfront investment.

More than two-thirds of operators and suppliers in our survey are aware of the benefits of digital transformation and where to implement them, yet only just over half of operators have a digital strategy. Considering the opportunities that digital offers for productivity improvement, companies need to be much more focused on how and where it can provide the greatest impact.

There is a growing level of involvement of private equity (PE)-backed organisations in the UKCS and the vast majority of respondents believe that their presence is positive for the basin. They are valued for the investment they bring to the UKCS – partly to prolong the life of some ageing assets, and partly because they can invest in new assets that did not attract interest from international oil majors. While some respondents accuse them of being too focused on short-term value, most admit that they also bring fresh thinking, more agility, and more focus and accountability to the basin. As such they display many of the cultural traits, behaviours, strategies, systems and processes that are conducive for better supply chain collaboration. Their lack of legacy structures, business systems and processes that can hinder large organisations, can help them provide the right environment for effective change and performance improvement.

Collaboration Review

Five-year overview and background

The survey has covered five years of challenge and transformation in the UKCS.

The first survey was conducted in the summer of 2015, more than a year after the publication of the Wood Report, which called for closer collaboration between companies operating across the ageing basin to maximise economic recovery (MER) of resources to extend its life. 'Collaboration' was as much of a buzzword then as it is today. It was clear that many talked about collaboration, but were less certain of what the word meant and what activities and behaviours it covered in an oil and gas context. Deloitte developed a framework to measure and analyse the change in behaviours and our report filled an important gap by providing actionable data and an independent view on the topic.

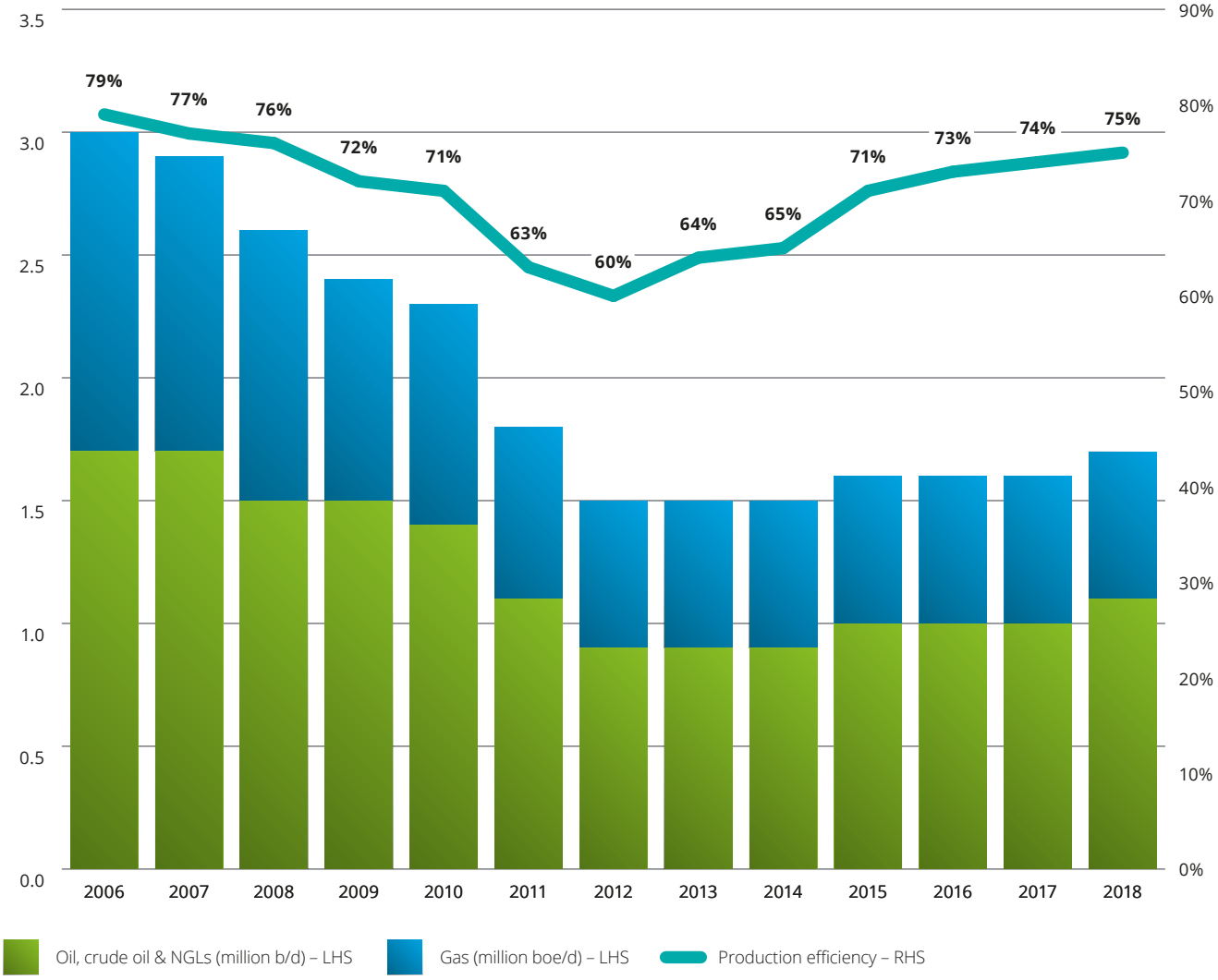
The first survey captured the sombre mood after 12 turbulent months for the industry. Oil prices had halved in the 12 months prior to the survey launch from more than $110/barrel in mid-2014 to just above $60/bbl by mid-2015, and then fell even further to below $30/bbl by early 2016. Total operating expenditure in the basin reached £10 billion in 2014, but dropped to £8.4 billion by 2015 and by 2017 had fallen to £7.1 billion, reflecting how aggressively companies were cutting costs.[1] The cost reduction efforts caused unit operating costs to decline from $31.7/barrel of oil equivalent (boe) in 2014 to $22.4/boe in 2015 and then to $15.4/boe in 2017.[2]

In 2014 oil and gas production dropped to the lowest level since the late 1970s, to just above 1.4 million boe per day (mmboe), and was slowly recovering by the time the first survey was published.[3] The industry worked hard to improve production efficiency from 65 per cent in 2014 to 71 per cent in 2015 (see Figure 1).

Lower oil prices hit capital investment in the ageing basin particularly hard. Total capital expenditure (capex) reduced from £16.3 billion in 2014 to £5 billion in 2018.[4]

> *'Collaboration' was as much of a buzzword then as it is today.*

Figure 1. UKCS production and production efficiency



Source: OGA

Five years ago an executive commented: "It is easy to collaborate when oil prices are high as there is a bigger pie to share". The comment was made in the context of rapidly falling oil prices that forced companies to reduce costs. Collaboration, we were told, was not their top priority. The comment reflected the adversarial behaviours that dominated the industry at the time.

However, the years that followed proved this statement wrong.

As the lower oil price environment persisted and traditional cost reduction efforts reached their limit, it was clear that companies needed to change their approach and behaviours to maintain production efficiency and contain costs without compromising health and safety. Companies simply needed to do more with less and closer collaboration with suppliers was very much part of the solution.

Today the industry is in a much better shape than it was five years ago. Since late 2016, the Brent oil price has been between $45 and $85/bbl, giving companies enough time to adjust to a more cost-conscious environment. This led to unit operating costs remaining at a more sustainable level of $15-16/boe. As a result of previous investments, total production had risen to 1.7 mmboe per day in 2018 and total capex is expected to increase to £5.5 billion in 2019 from its low point of £5 billion in 2018, with more money spent on exploration, appraisal and development drilling than in previous years.

The ownership structure of the operating asset base has also shifted over the past five years. Asset sales by a number of international oil majors in the UKCS have provided opportunity for smaller operators. Some of these are specialists in running late life assets and an increasing number of them are backed by private equity.

Looking back at the past five years' survey results, it is clear that the industry has made much progress in embracing collaboration. Attitudes towards collaboration have improved significantly. Nearly everyone surveyed said they understand the importance of collaboration not only for the present but for the future of their company as well. Companies are also more willing to share the details of their collaborative efforts and celebrate their successes.

However, closer inspection reveals that for many companies actions did not always follow words and there is much more that companies can still do. Therefore, we are taking a fresh approach to analysing the results of the survey. In this report we assess industry progress against the three pillars for successful collaboration to highlight the elements that we think are still needed for collaboration to become more widespread across the UKCS.

We believe that these three pillars need to be closely integrated for collaboration to be more successful across the UKCS.

How does the industry fare across these three domains?

Collaborative mindset and business culture underpinned by strong leadership

Having a collaborative mindset and business culture across the organisation means different things for different companies.

Our research over the years has found that a number of behavioural traits can be associated with a collaborative mindset and business culture including:

- general openness with partners, including willingness to share knowledge and learning; engagement beyond processes to foster transparency; regular conversations about delivery, quality and time, rather than cost; openness to new ideas and new ways of working
- a focus on working with other organisations to achieve a common goal
- a focus on value and end-goal, and working out with other organisations how to get there efficiently
- sharing the benefits of the working relationship fairly between the partners; a desire to see suppliers succeed for mutual benefit
- fostering long-term, trusted relationships with a set of suppliers.

The collaborative business culture is underpinned by strong leadership that sets the course for overall direction, encouraging collaborative behaviours on all levels of the organisation. It challenges the existing organisational structures and established systems and processes to remove hurdles to closer working relationships with suppliers or operators. Strong leadership also devolves/decentralises decision-making to empower people to make decisions at the appropriate level in a timely and effective manner. It creates the environment for employee initiatives and freedom of action.

What does our data say about a collaborative mindset and culture in the UKCS?

Our data and analysis suggest that companies in the UKCS show strong commitment to collaboration on a leadership level and more companies are saying they are striving to demonstrate behaviours closely connected with collaboration throughout their projects and activities. However, there is still a need to accelerate this shift in mindset in the operational layers of organisations so that employees feel empowered to make change happen.

Positive attitudes towards collaboration continue

Attitudes to collaboration have been positive from the start of the survey and the latest results suggest that both operators and suppliers remain firmly committed to collaboration.

Figure 2 shows that the same proportion of respondents as last year, 89 per cent and 91 per cent respectively, say that they work collaboratively and are taking strategic steps to improve collaboration. Nearly all respondents, 98 per cent, say they want to be known as effective collaborators by their partners.

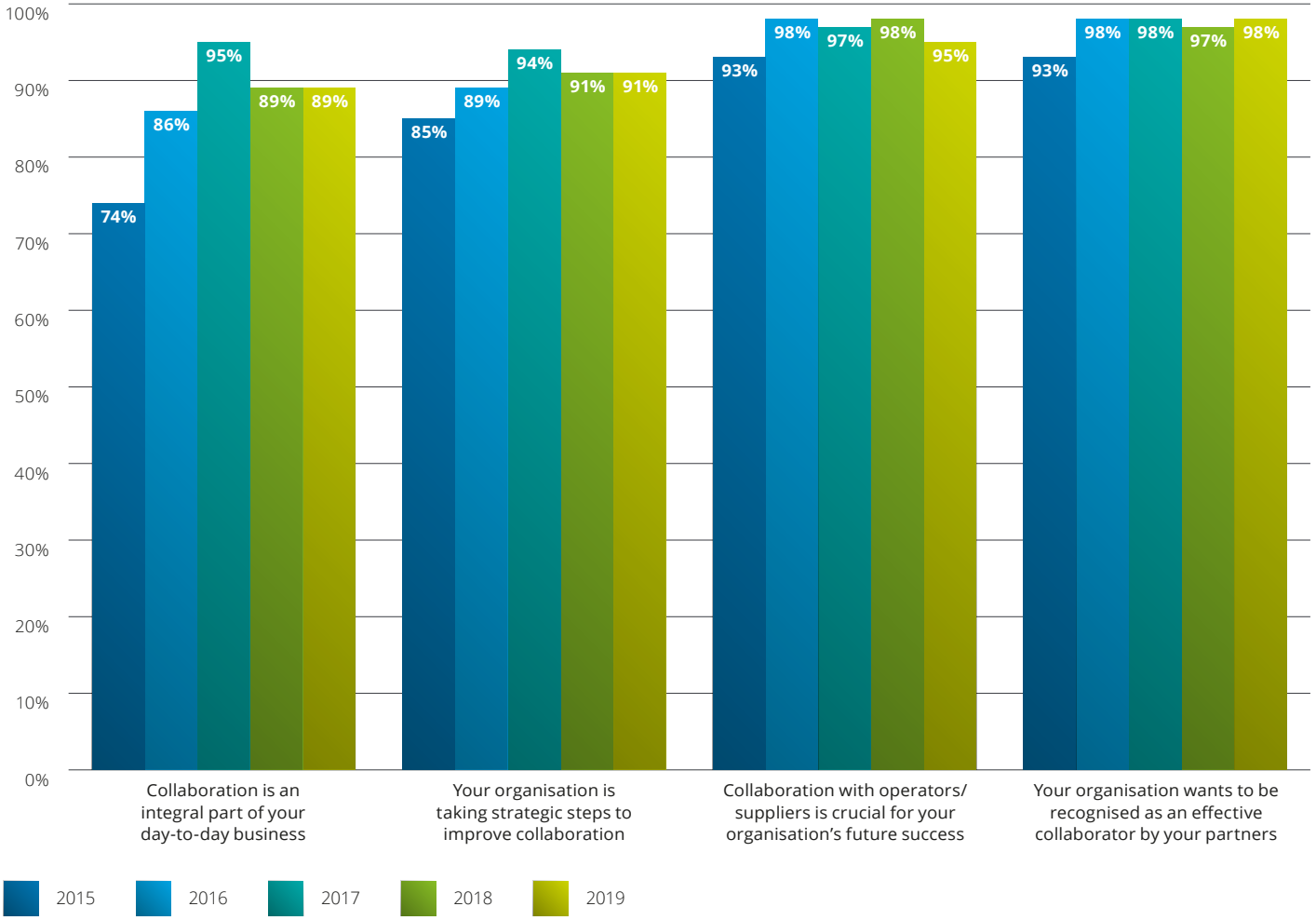
The results clearly show that the industry has embraced the messages about the need for and the benefits of collaboration that the Oil and Gas Authority, the regulator, and OGUK, the main industry trade association, have been promoting consistently over the past five years. More operators also include collaboration in their company values and pledge to support it.

The only slight drop was in the role of collaboration for the respondent's organisation's future success.

Attitudes to collaboration have been positive from the start of the survey and the latest results suggest that both operators and suppliers remain firmly committed to collaboration.

Figure 2. Attitudes to collaboration

% of respondents agree



2015 n=58 respondents; 2016 n=107 respondents; 2017 n=127 respondents; 2018 n=175 respondents; 2019 n=246 respondents;
Source: Deloitte analysis

Shifting from cost reduction to sharing knowledge/learning

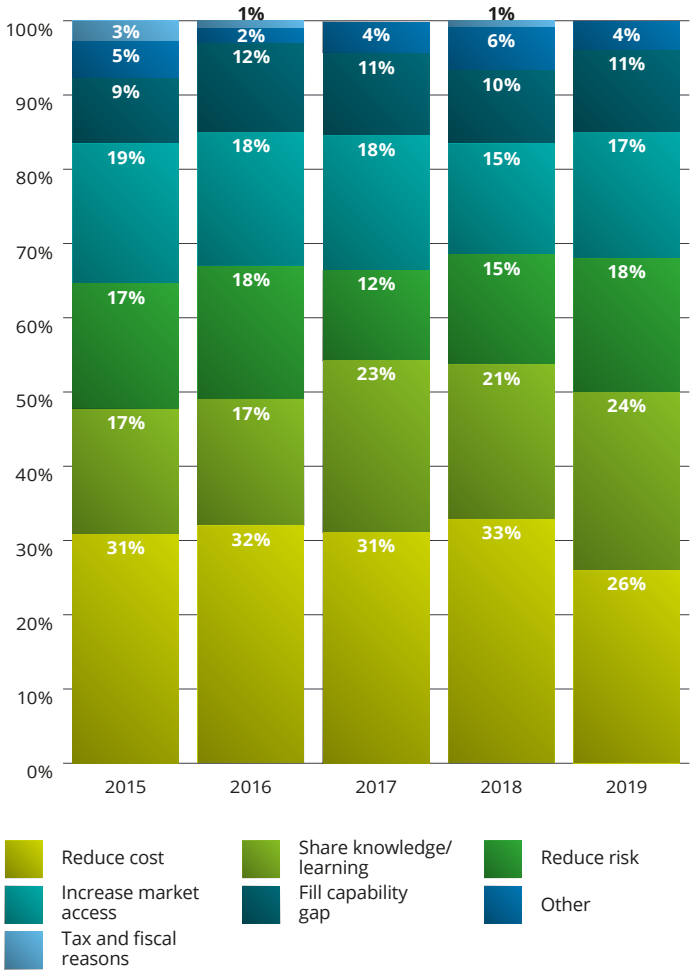
While cost reduction is still the main reason why companies collaborate, there has been a noticeable shift over the last five years towards collaboration being driven by a willingness to share knowledge and learning. The proportion of respondents who say in 2019 they collaborate to reduce costs has dropped to 26 per cent from 33 per cent in 2018. This is the lowest level since the survey started five years ago. In turn, the proportion of sharing knowledge/learning has reached 24 per cent for the first time in 2019.

This is a positive and welcome development for the industry. It suggests more innovation, more openness between operators and suppliers.

The proportion of respondents who say in 2019 they collaborate to reduce costs has dropped to 26% from 33% in 2018.

Figure 3. Principal reasons for collaboration in the UKCS

% of all responses



2015 n=108 responses; 2016 n=191 responses; 2017 n = 236 responses; 2018 n=343 responses; 2019 n = 451 responses

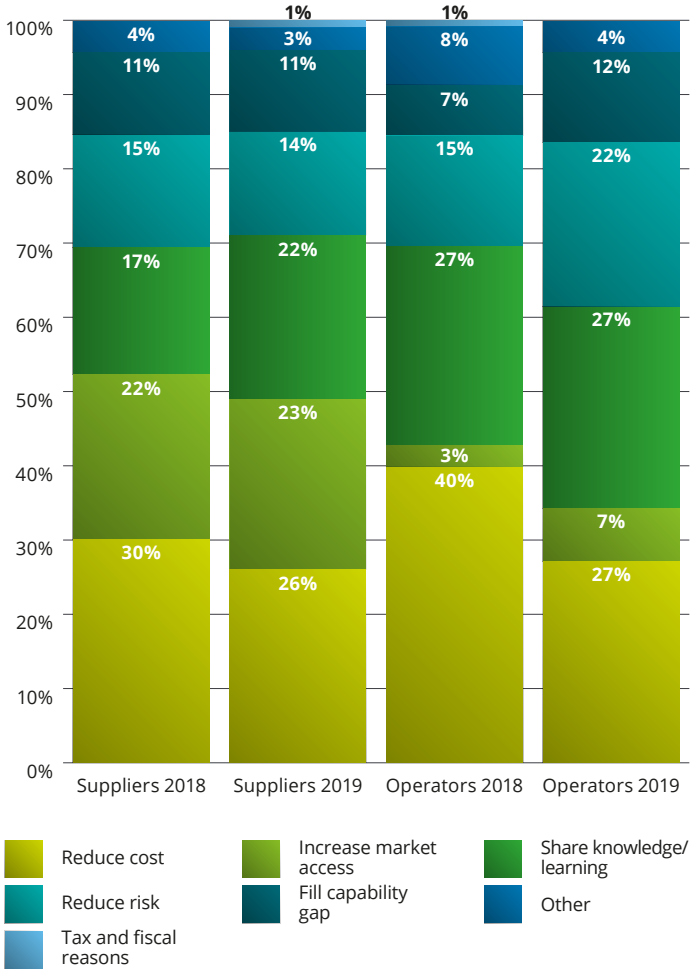
Source: Deloitte analysis

A breakdown of the results by company type provides further insight into the reasons for collaboration in the UKCS. The number of operators who collaborate with their suppliers to reduce costs has dropped to 27 per cent in 2019 from 40 per cent in 2018 (see Figure 4). This could be the result of a combination of factors: operators feel they have got costs under control and their businesses are on a more sustainable footing, and/or they simply feel more comfortable with oil prices edging slowly higher over the summer of 2019.

Knowledge sharing and learning for operators as a driver for collaboration is now on a par with cost reduction for the first time, with both factors accounting for 27 per cent of responses. Forming strong, collaborative relationships or more formalised ecosystems, partnerships and alliances around knowledge, innovation and capabilities will be more important for oil and gas companies in the future. This will give access to a suite of competencies (both core and specialist) without bearing the research and development costs that the partner has already invested and is willing to share competencies.

We also note an increase in the proportion of risk reduction as a driving force for collaboration for operators in 2019. We did not define which particular risk in the survey, but most operators commented on the risk that some suppliers would not be able to carry out projects for lack of competencies they lost during the prolonged period of lower oil prices. This means that some operators engaged additional suppliers to mitigate that risk. There is a general concern that the supply chain will not be able to regenerate itself in time if activity were to pick up faster than predicted.

Figure 4. Principal reasons for collaboration in the UKCS
% of all responses by company type



Operators: 2018 n=124 responses; 2019 n = 179 responses
Suppliers: 2018 n=219 responses; 2019 n = 272 responses
Source: Deloitte analysis

Moving slowly towards business transformation in an increasingly collaborative manner

With cost reduction still accounting for more than a quarter of the reasons behind collaboration, it is important to examine how operators aim to reduce costs.

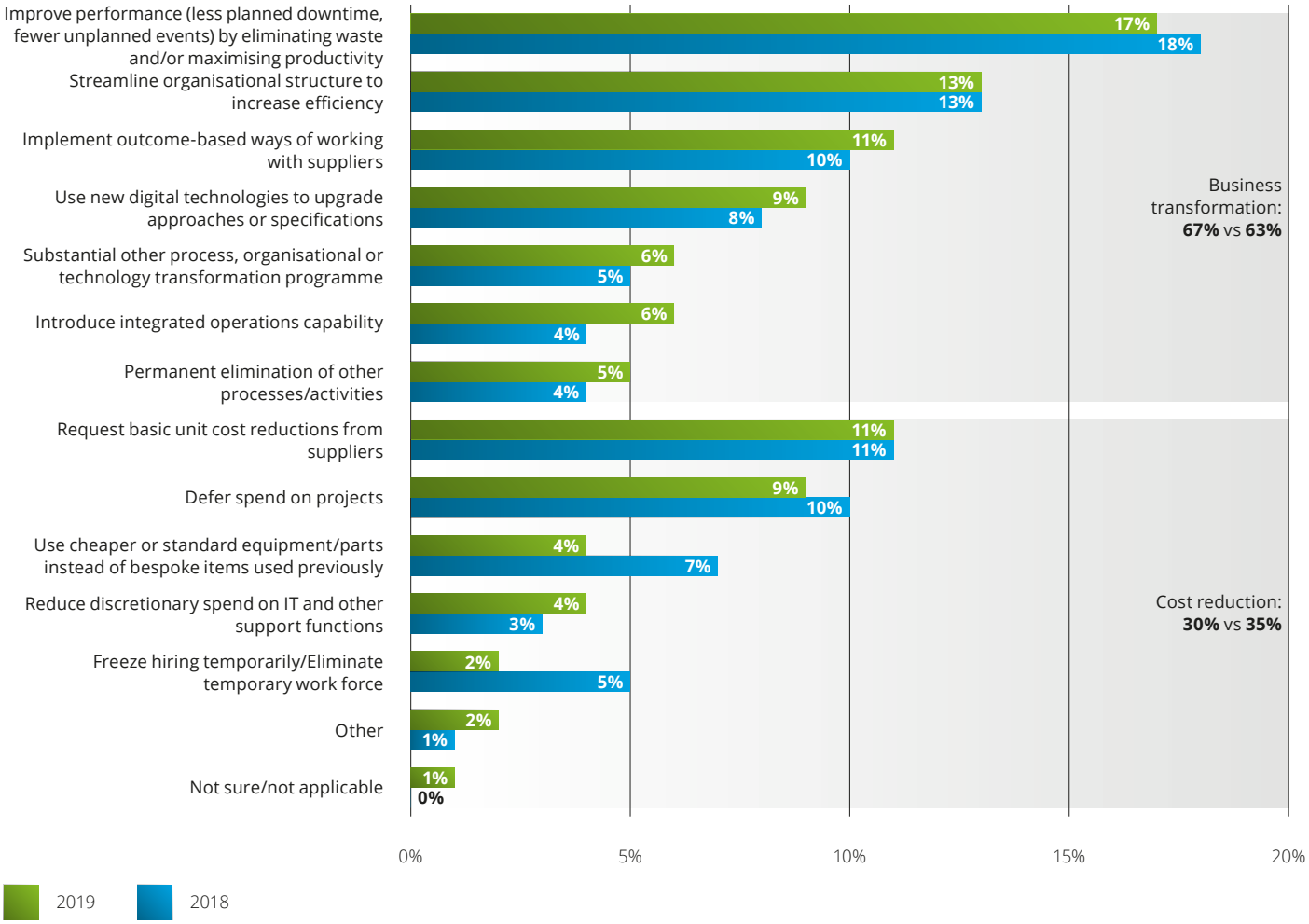
Operators are using substantially more business transformation methods than traditional cost reduction techniques to reduce costs over the past two years. Business transformation methods include performance improvement and streamlining organisational structures as well as implementing outcome-based ways of working with suppliers. It is a positive development that the proportion of those using business transformation methods compared with operators that rely on traditional cost cutting techniques has increased – albeit slightly – to 67 per cent vs 30 per cent in 2019 from 63 per cent vs 35 per cent in 2018 (see Figure 5).

It is equally positive that 'Implementing outcome-based ways of working with suppliers' has moved up to third position. This suggests that a higher number of operators are changing their ways of working with suppliers – hopefully sharing the benefits of the projects more fairly with an increased focus on the value of the deliverable rather than the unit costs.

However, not every operator has had a positive experience trying to establish outcome-based contracts with suppliers. Some noted that suppliers were unwilling at times to take on some risks that were within their power to mitigate. On occasion, after a lengthy period of unsuccessful negotiation, the parties returned to traditional contracts. Surprisingly, there is less focus on using cheaper or standard equipment in 2019. This is despite the fact that reducing the use of bespoke equipment has been identified as a particular means of achieving cost reduction. Appetite to defer projects and freeze hiring have also reduced slightly, which is in line with the general view in the industry that activity is slowly picking up across the UKCS.

Figure 5. Cost reduction techniques in the past 12 months – operators

% of operator responses



2018 n = 261 responses; 2019 n = 325 responses
Source: Deloitte analysis

Forming strong, collaborative relationships or more formalised ecosystems, partnerships and alliances around knowledge, innovation and capabilities will be more important for oil and gas companies in the future.

Caution needed for future cost reduction techniques

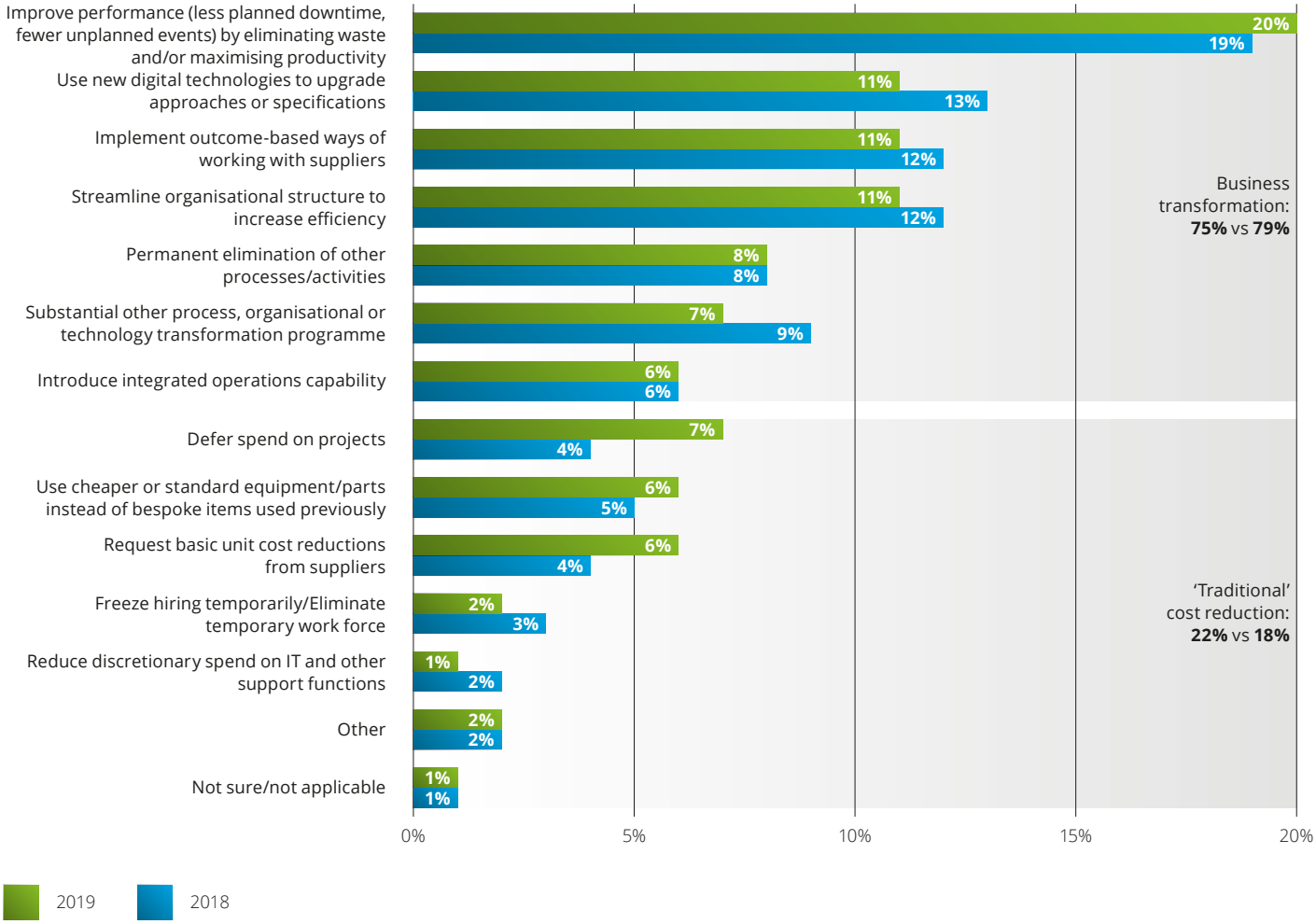
Companies need to be wary of reverting to the traditional ways of working – including straight cost reduction – as oil prices stabilise or improve.

Last year companies told us that they would eliminate more waste to improve production efficiency, use more digital technology and focus more on outcome-based ways of working with suppliers this year. In reality, digital has attracted less investment in 2019 compared with the plans last year and was replaced by efforts to streamline organisational structures to rein in costs.

While business transformation efforts are still expected to account for three-quarters of cost reduction methods, there has been a slight drop in their expected usage for the next 12 months. The proportion of those who plan to use such techniques dropped to 75 per cent in 2019 from 79 per cent in 2018 (see Figure 6). The results also show slightly less focus on sharing the positive outcomes of working with suppliers, eliminating internal waste and using more digital technologies, but more deferring spending on projects and asking suppliers to reduce their prices.

Figure 6. Cost reduction techniques in the next 12 months – operators

% of operator responses



2018 n = 232 responses; 2019 n = 305 responses
Source: Deloitte analysis

Strategy and business models

Collaborative efforts can only have benefits if there is a strong strategy in place, they are clearly focused on goals and values in high-impact areas, and are supported by innovative business models.

Conversations with a number of operators and suppliers suggest that leadership is genuinely supportive of collaboration and some even build business strategies around it. But in reality we do not see enough instances where such business strategies are translated into business models and filtered down the organisation to enable and encourage collaboration within junior ranks.

We believe many companies are not taking sufficient action and this is one of the reasons as to why success levels have not improved significantly over the past five years.

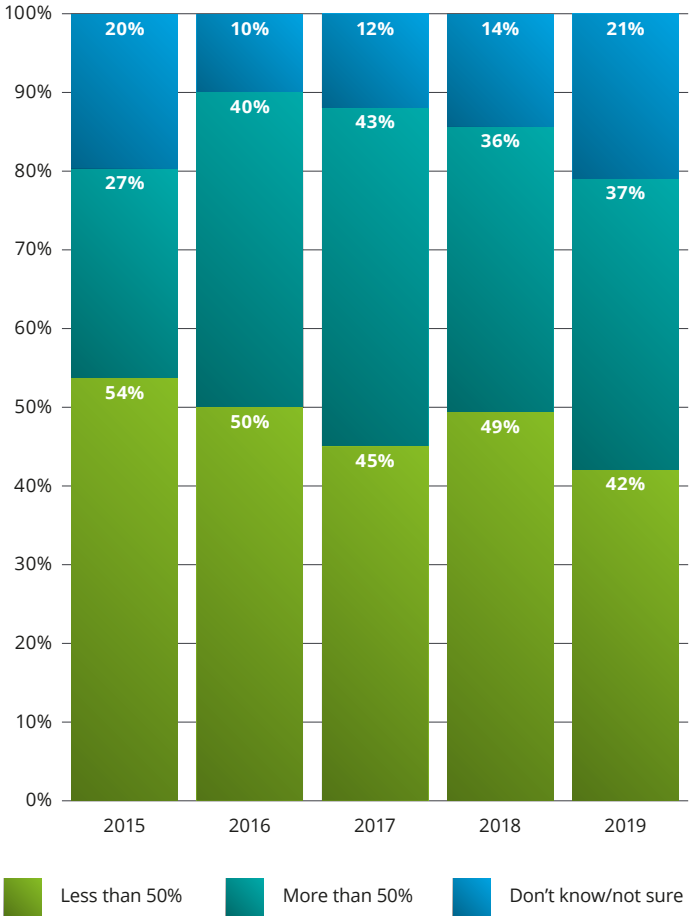
Building trust takes a long time, but it erodes very quickly.

Mixed success for collaborative efforts and frustrated suppliers

Given that collaboration has been talked about extensively at industry gatherings and companies are keener to celebrate successful collaborative projects today than they were five years ago, we were expecting a steady rise in the proportion of successful collaboration efforts. However, the latest results show that this is not the case. While the proportion of 'unsuccessful' (i.e. less than 50 per cent success rate) projects has fallen to its lowest level, 42 per cent in 2019 compared with 54 per cent in 2015, this has not been accompanied by a significant increase in the level of successful efforts compared with last year. This year more than a fifth of respondents do not know how successful their organisation's efforts have been (see Figure 7).

This suggests that there has been plenty of talk but less action when it comes to demonstrating the collaborative behaviours described on p14.

Figure 7. Proportion of successful collaboration efforts in the past 12 months
% of respondents



2015 n=56 respondents; 2016 n=101 respondents; 2017 n=121 respondents; 2018 n=166 respondents; 2019 n=226 respondents
Source: Deloitte analysis

A breakdown of the overall results into company types provides further insight into why efforts have been less successful than expected.

There is a marked difference between how operators and suppliers view collaborative efforts.

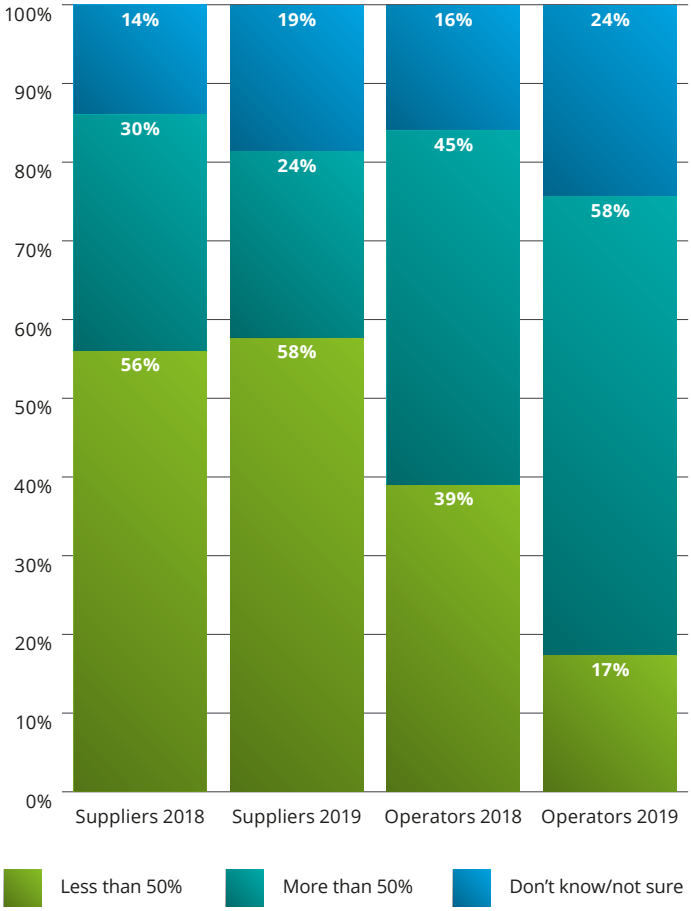
Operators in general are more positive about collaboration. The proportion of those who believe more than half of their efforts were successful increased to 58 per cent in 2019 from 45 per cent in 2018 (see Figure 8). This is the highest number across the five years of the survey, but the level of those who were not sure about their success rate also increased to nearly a quarter.

In contrast, the proportion of suppliers who are dissatisfied with their collaborative relationships with operators more than 50 per cent of the time has been sustained at a high level, close to 60 per cent. The proportion of those who were satisfied more than 50 per cent of the time dropped to less than a quarter, although more people also said that they were not sure.

The fact that operators and suppliers provide such contrasting views of the same collaborative efforts is striking. This highlights the lack of a collaborative mindset and behaviours as well as a misalignment of expectations. It appears that the benefits of collaboration are not being shared equally, with suppliers growing more frustrated and believing that operators are still retaining most of the benefits. Some operators also suggested that expectations of collaboration may be changing. Given the level of discussion at an industry level, companies may also be expecting more from each other.

Figure 8. Proportion of successful collaboration efforts in the past 12 months

% of respondents by company type



Suppliers 2018 n=102 respondents; 2019 n=140 respondents
Operators 2018 n=64 respondents; 2019 n=86 respondents
Source: Deloitte analysis

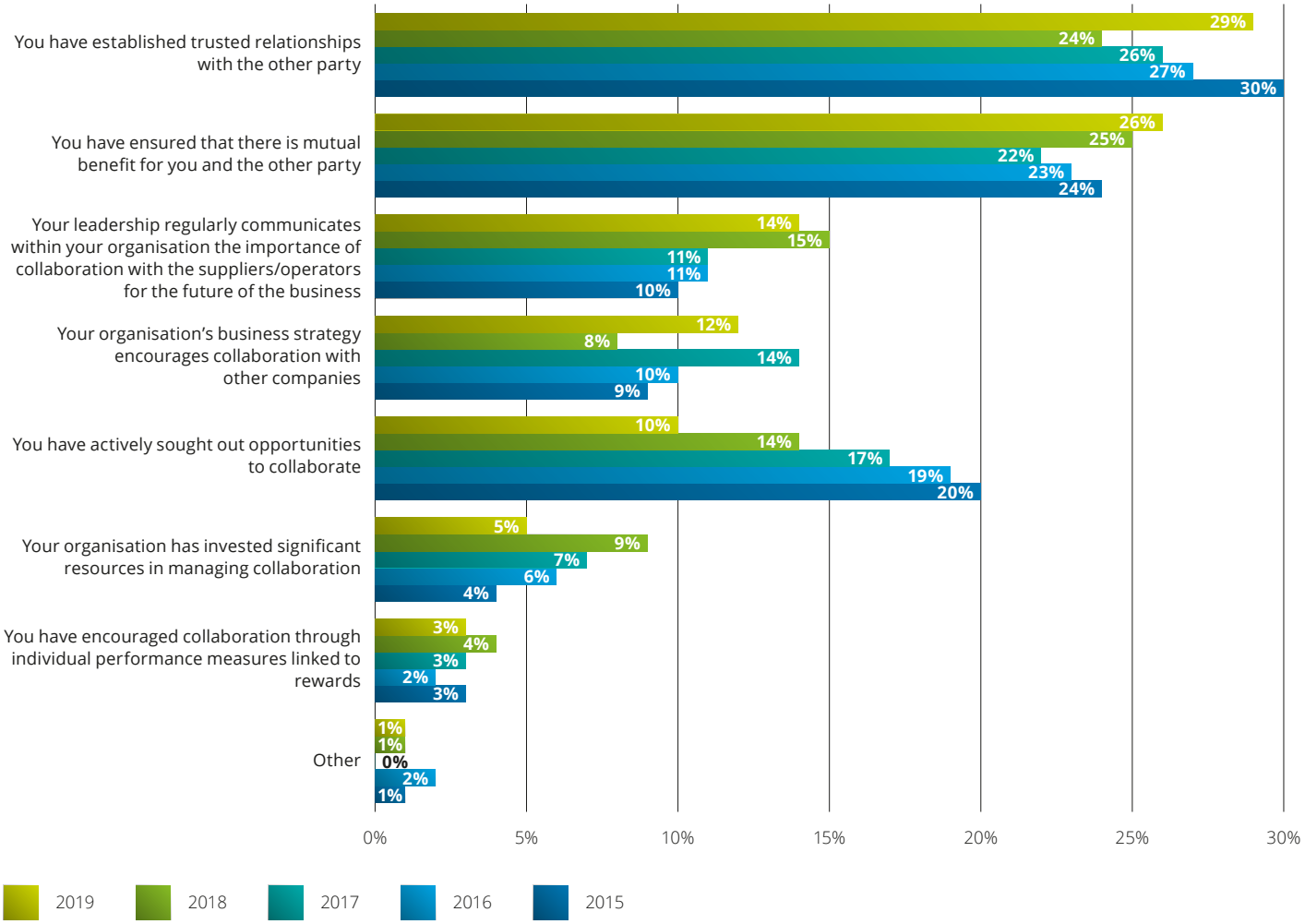
It appears that the benefits of collaboration are not being shared equally, with suppliers growing more frustrated and believing that operators are still retaining most of the benefits.

Figure 9 shows that behavioural factors (trusted relationships and ensuring mutual benefits) are still the main drivers of successful efforts – accounting for a combined 55 per cent of the reasons in 2019 – and this level has not changed over the years. This could be a limiting factor considering that the number of people who may be in a position within a company where they can maintain trust or ensure mutual benefits is probably low.

In contrast, the role of a business strategy in driving collaboration is still at 12 per cent in 2019 and has only slightly increased from 9 per cent in 2015. This result continues to contradict the messages of Figure 2, where respondents stated that their companies considered collaboration crucial for their future business and were taking strategic steps to improve it. While the role of leadership in driving collaboration has increased slightly from 2015, investing resources in managing collaboration and encouraging collaboration through individual performance measures linked to rewards continue to attract little interest from companies. In other words, companies' workforces are not supported or incentivised to collaborate. This suggests that while companies understand the importance and the potential of collaboration and are firmly behind the principle, various factors prevent them from following their words up with action in recognising – and rewarding individuals for collaborating successfully.

Figure 9. Principal reasons for *successful* collaboration

% of all responses



2015 n=113 responses; 2016 n=243 responses; 2017 n=277 responses; 2018 n=413 responses; 2019 n=560 responses
Source: Deloitte analysis

Figure 10 confirms that in addition to the lack of a strategy, behavioural issues are also responsible for the lack of improvement in success rates.

Misalignment of expectations between the two parties has been the leading cause of collaborative failures over the five years and it still accounts for 21 per cent of the reasons for unsuccessful efforts in 2019. This can stem from a number of factors including lack of communication, lack of mechanisms to prevent or solve disputes, and complex contracts.

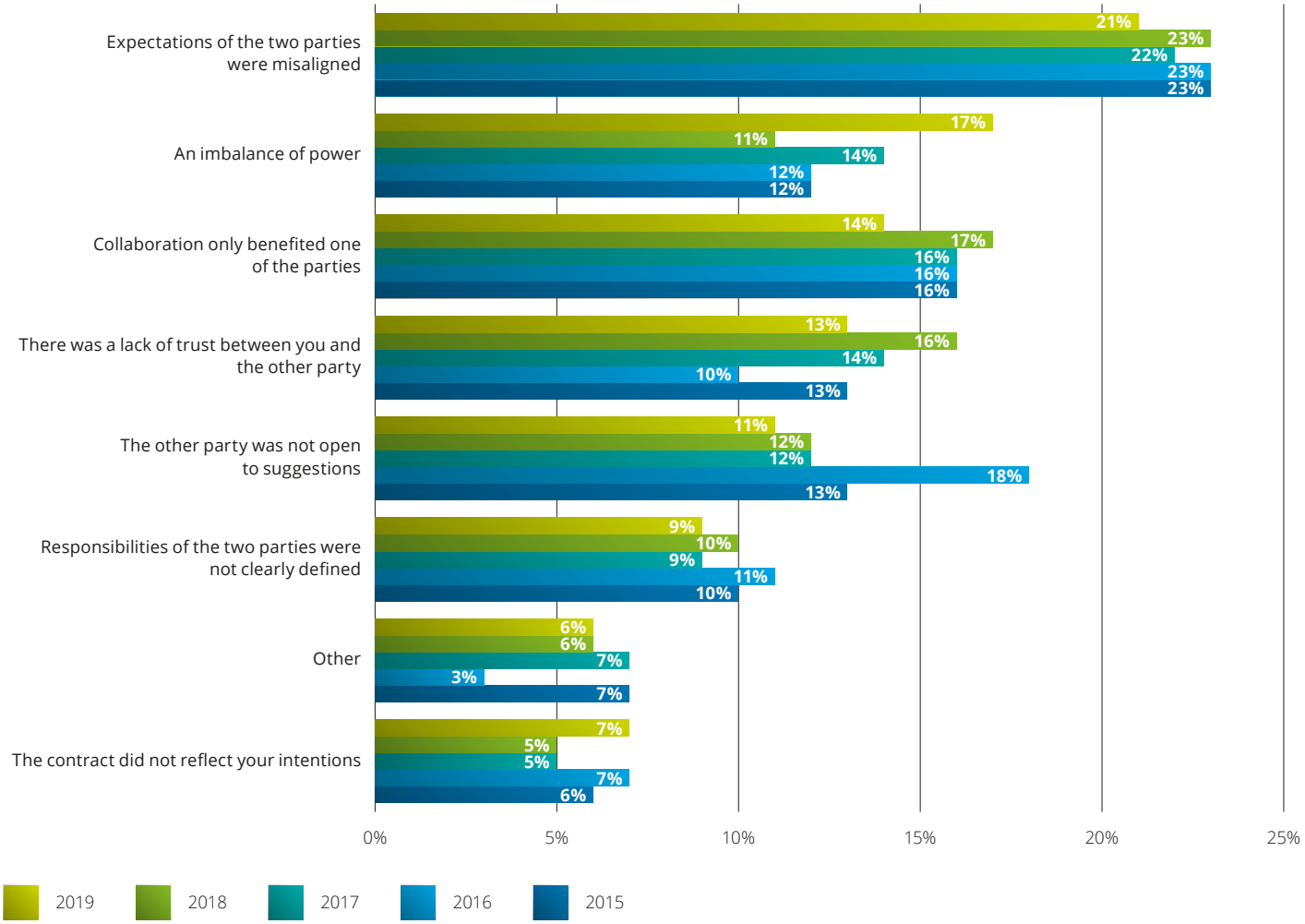
Misalignment of expectations is followed by power imbalances between the parties, which increased to 17 per cent in 2019 from 11 per cent in 2018. Given that a number of majors now have a stated strategy to work with tier 2 suppliers more, and there were more medium-sized companies responding to the survey, this is perhaps not that surprising.

While trust and ensuring mutual benefits are the main reasons for success, the lack of these accounts for about a quarter of unsuccessful relationships in 2019. Building trust takes a long time, but it erodes very quickly. Suppliers often report that operators encourage them to be innovative throughout a tender process, but in the end they will negotiate hard to reduce the unit price and the positive attitude shown during the tendering process disappears. This has led many suppliers to become somewhat sceptical when they hear of operators' openness to new ideas.

This also brings up a fundamental issue for suppliers, many of whom believe they do not receive enough return on their investments. This makes it challenging to upgrade outdated assets or invest in developing new products and services.

Figure 10. Principal reasons for *unsuccessful* collaboration

% of all responses



2015 n=105 responses; 2016 n=229 responses; 2017 n = 243 responses; 2018 n=345 responses; 2019 n=484 responses

Source: Deloitte analysis


H

Business systems and processes enabling collaboration with suppliers

A company will only work collaboratively at scale if its business systems and processes are also aligned, regardless of leadership being firmly behind collaboration, a business culture that is open and leaning towards collaborative behaviours, and a strategic framework focused on value and goals.

Collaboration requires ownership of a project and having the right capability – workforce, technology, data – to execute the project efficiently with suppliers. Effecting change here is difficult as it requires a fundamental shift in how the company is set up and operates.

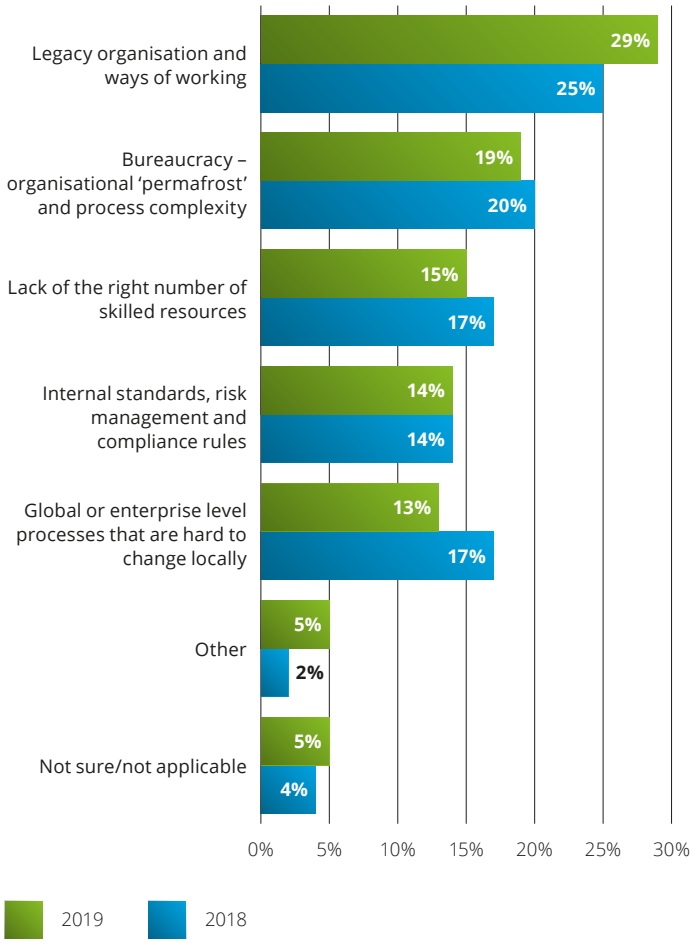
We suspect that many companies have done little to change their business systems and processes to allow their workforce to work with suppliers more seamlessly and directly.

Organisational barriers

From a systems and processes perspective, we found two major areas that continue to act as barriers to better collaboration: organisational structures and contracts/procurement.

Nearly half of responses point to outdated business structures, high levels of bureaucracy and complex processes to explain why they are unable to transform the way they work with their suppliers (see Figure 11).

Figure 11. Barriers to transformational changes
% of all responses



2018 n=326 responses; 2019 n=447 responses
Source: Deloitte analysis

This means that in many organisations the willingness, strategy or technology may exist locally to work more closely and directly with suppliers, but in reality the company's complicated and bureaucratic processes, or siloed structure prevent it from doing so. Our results also show little overall change from last year.

Contractual barriers and how other sectors overcome them

Tendering and contracting processes, terms and conditions, and the inability to change contracting approaches create major barriers to closer and more successful collaboration between operators and suppliers. Figure 12 shows that such barriers represent 46 per cent of challenges for operators and 55 per cent for suppliers.

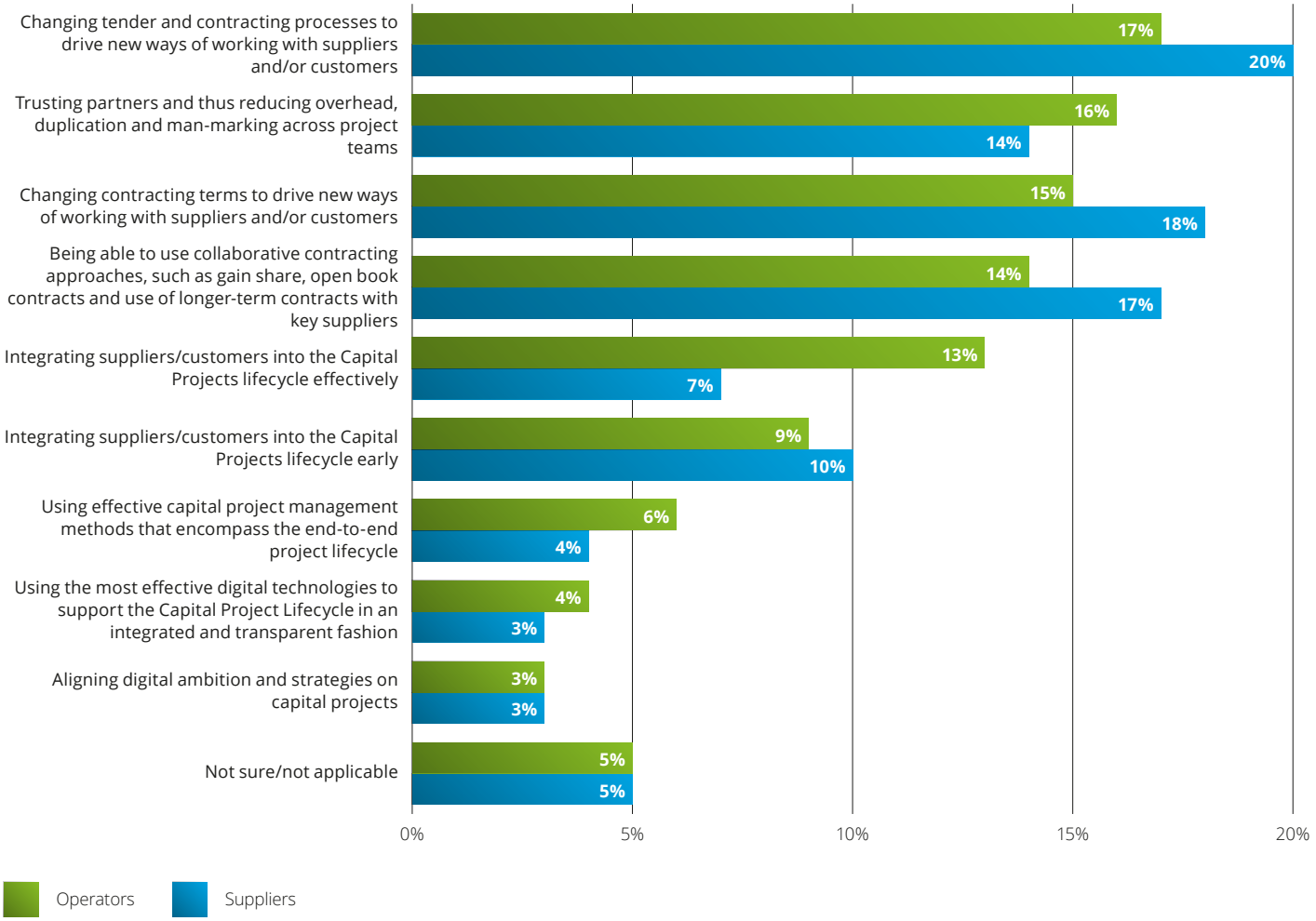
Aggressive procurement processes and behaviours have long been cited by suppliers as damaging relationships with their customers. Suppliers argue that often there is little actual communication with business/project managers throughout engagement and discussions are often about the unit costs and specifications rather than the requirements and value.

Recent discussions have also revealed increased requirements for data, information and documentation at the tendering stage. Obtaining and maintaining documentation in large volumes can be particularly onerous when some products are sourced from further down the supplier's supply chain. Suppliers argue that some expectations are both unrealistic and unnecessary as some data requested is never used as part of the project. Companies need to redefine what brings value throughout the lifecycle of a project, better allocate risk and reward, and decide who is best placed to manage certain risks. The increasing use of digital technologies may help resolve this problem in time.

Companies need to redefine what brings value throughout the lifecycle of a project, better allocate risk and reward, and decide who is best placed to manage certain risks.

Figure 12. Challenges for supply chain collaboration

% of all responses by company type



Operators 2019 n=212 responses; Suppliers 2019 n=352 responses
Source: Deloitte analysis

Contracting and procurement is an area where simplification and innovative approaches could have a significant positive impact both on a company and an industry level. However, instituting change is difficult especially as trust is low in many cases. For international oil majors this is often because of business-wide systems and processes that have been put in place for various reasons, including risk reduction and achieving economies of scale for price negotiations. We believe that changing centralised procurement systems will require strong leadership and articulation of a clear case for change that could bring about the productivity gains the industry is trying to achieve.

There is also a cultural and behavioural element to complex contracts in the UKCS. This came to light through a parallel survey we ran in the Netherlands in 2016. Companies that have assets both in the UKCS and the Netherlands explained that contracting approaches – even within the same company – differ considerably between the two geographies. Companies in the Netherlands are viewed as taking a pragmatic approach to contracts, relying on a greater degree of trust, but European and UK company law differ significantly. As a result, contracts in the Netherlands are significantly shorter; they record the intent, rather than the execution of a project, and there is limited involvement from legal teams in drafting them.

Contracting and procurement is an area where simplification and innovative approaches could have a significant positive impact both on a company and an industry level.

Reforming contracting and tendering requires a cultural change. The construction, utilities and transport sectors in the UK have made substantial strides in moving to a more collaborative, innovative and balanced contracting approach, where risks are carefully identified and then managed transparently with appropriate sharing of the pain/gain. These industries often use the New Engineering Contract (NEC) frameworks – various editions of which cover engineering and construction contracts (NEC2) as well as supply contracts (NEC3). The latest edition, NEC4, also covers alliance contracts.

The role of digital in collaboration

Technological advancement, the falling cost of new technologies and increasing connectivity of devices provide considerable opportunities for improving health and safety and operational efficiency in the oil and gas sector.[5]

There are wide-ranging efforts in terms of adopting digital technologies across companies in the UKCS. Some international majors have been early adopters, with several using cloud services, predictive analytics, robotics and digital twins. Others are considering how to expand the use of digital within their businesses or are starting to experiment with various technologies. But while we have seen greater interest and a rapid increase in the uptake of digital technologies across the UKCS over the past two years, the industry overall still lags behind other sectors, such as retail, finance, aerospace or nuclear in digital uptake.[6]

We have seen substantial benefits delivered through the deployment of digital technologies in other sectors, For example in some projects we have been involved in directly, we have seen as much as a 30 per cent reduction in front-end design, financing and procurement efforts; up to 10 per cent reduction in capital expenditure over the project lifecycle; and a 10 to 20 per cent reduction in operating expenditure and asset management. We believe that digital could lead to comparable cost savings in the oil and gas sector too.

Collaboration through data and digitisation between operators and suppliers has not been widely explored, but we believe that it could open up substantial opportunities for increasing production and improving efficiency.

Technological advancement, the falling cost of new technologies and increasing connectivity of devices provide considerable opportunities for improving health and safety and operational efficiency.

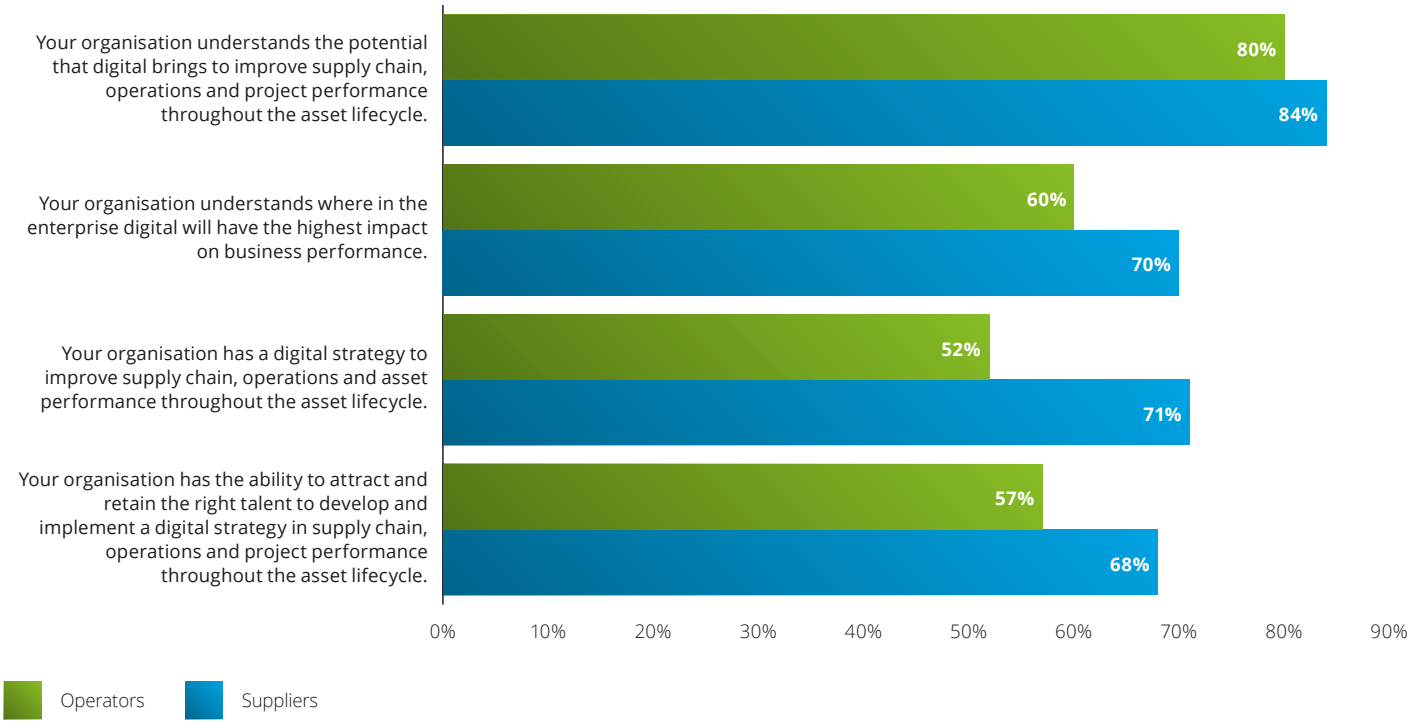
Overall, Figure 13 shows better results for suppliers than for operators. This confirms anecdotal evidence that some suppliers are developing digital solutions as possible product/service offerings, while others are being pushed to adopt digital earlier to increase efficiency and performance to offer more competitive prices.

Eighty per cent of operators tell us they understand the potential that digital brings to improve supply chain, operations and project performance across the asset lifecycle compared with 84 per cent of suppliers. However, only 60 per cent of operators and 70 per cent of suppliers appear to understand where digital would have the greatest impact in their organisation. An even lower proportion, 52 per cent of operators say they currently have a digital strategy.

Only 60% of operators and 70% of suppliers appear to understand where digital would have the greatest impact in their organisation.

Figure 13. Digital – potential, impact, strategy and talent

% of respondents by company type



Operators 2019 n=84 respondents; Suppliers 2019 n=132 respondents
Source: Deloitte analysis

Figure 13 shows that the oil and gas sector understands to a large extent the potential value that data and data analytics can bring, but nearly half of operators do not have a strategy on how to make better use of them.

The sector has been accused by some as being too risk averse and many say that it "rushes to be second" in adopting new technologies. Projects in oil and gas are large, multi-year investments that rely heavily on supply chain and existing contractual agreements. These make it difficult to introduce rapid change. Many operators struggle knowing where to start and how to scale across the organisation, and how to choose technology from the vast choice on offer.

The low cost of new technologies and the fact that they can add value across the enterprise make it difficult for some organisations to focus quickly on the highest value opportunities. This tends to lead to either an 'over analysis' of opportunities and a total lack of progress or spreading investment too thin by trying to do too much at once and not getting any real breakthrough.

A number of operators tell us that they are not fully capable of managing and making the most of the data they generate themselves. Many suppliers also have vast amounts of often unstructured data about assets or equipment they operate for asset owners that are not willing to share due to lack of trust or simply because they do not want to give away value – even if they themselves are unable to make the investment to generate that value. In our experience, data can be turned into valuable insight by structuring it in a useful manner around business drivers to enable performance to be monitored and improved.

However, considering the opportunities that digital offers for performance improvement and the speed at which digital is being adopted in oil and gas and other industries, we believe that some of the concerns and barriers need to be addressed head-on. Other industries have seen new entrants with more radical business models disrupt their business and it is inevitable that this will happen in oil and gas too. Based on the views of respondents, many companies still have a lot of work to do to unlock improvement opportunities across their businesses and not be left behind.

Data, we believe, could be one area where operators and suppliers could truly collaborate. Sharing of data in a safe and secure environment, with clearly defined roles and responsibilities as well as shared benefits could lead to improvement in asset performance and cost. The rewards would be immense in an industry where project delays and cost overruns are widespread and where urgent access to critical equipment, spare parts and workforce can quickly multiply prices. The opportunities arising from such relationships or partnerships would enable the development of specialised, dedicated product offerings around oil and gas data analytics.

A surprising proportion, 57 per cent of operators and 68 per cent of suppliers, believe they can attract and retain digital talent. These figures seem overly optimistic based on other recent studies. According to Opito's estimates, the UK oil and gas sector will need 25,000 additional people by 2025, with around 4,500 for roles that currently do not exist.[7] This is likely to be challenging as other large industrial sectors in the UK are also going to go through similar digital journeys that will lead to intense competition for talent with similar skills in the next six years. The Opito report also calculates that around 80 per cent of the current workforce will still be working in the sector in 2025. Therefore companies will need to consider carefully how to find and nurture existing digital talent within their organisation and how to upskill and reskill their workforce to succeed in the future.

Data, we believe, could be one area where operators and suppliers could truly collaborate.

Learning from private equity

Mergers and acquisitions and asset deals over the past ten years have transformed the UKCS operator landscape. According to OGUK's Economic Report 2019, the ten largest producers accounted for approximately two-thirds of UKCS production in 2008.[8] Ten years later that share had fallen to about 50 per cent. Increased competitiveness, recent tax and regulatory changes attracted a wave of new companies to the basin, while at the same time some international oil majors have made divestments and/or exited the basin to focus on assets elsewhere and some utilities sold down their oil and gas assets. This new wave included smaller independents, national oil companies, privately owned companies and PE-backed businesses. Investment by PE-backed companies in particular has increased substantially, with some estimating that $12 billion of PE money was invested in the UKCS in 2017 and 2018 only.[9] PE investment was generally spread across the oil and gas lifecycle, from pre-development projects to producing assets.

Given their increased footprint in the UKCS, we wanted to find out what impact PE-backed companies have had on the UKCS and why.

Figure 14 shows that 69 per cent of all respondents agreed that PE-backed companies are going to have a positive impact on the UKCS, but that figure rises to 90 per cent if the results from those 'Not sure/Not applicable' are disregarded.

Feedback from respondents as to why PE-backed companies are having a positive impact on the basin centres on three main areas:

- **enabling new capital projects** – PE-backed entities provide new capital and additional sources of funding, thereby helping extend the life of some assets and enabling some new capital projects to be sanctioned. Their investment criteria differ from those of the international oil majors and they are also willing to invest in assets, which attracted little interest from their previous owners

- **innovation and new ways of working** – PE-backed companies are considered more entrepreneurial, and bring fresh ideas and a different perspective on business strategy, structure and project execution

- **more flexibility, agility and efficiency** – free of large, international, legacy organisational structures, systems and processes, PE-backed companies are able to make decisions faster and more flexibly, making employees more empowered and more accountable. They are looking for financial returns based on asset performance, therefore they are more focused on efficient project execution.

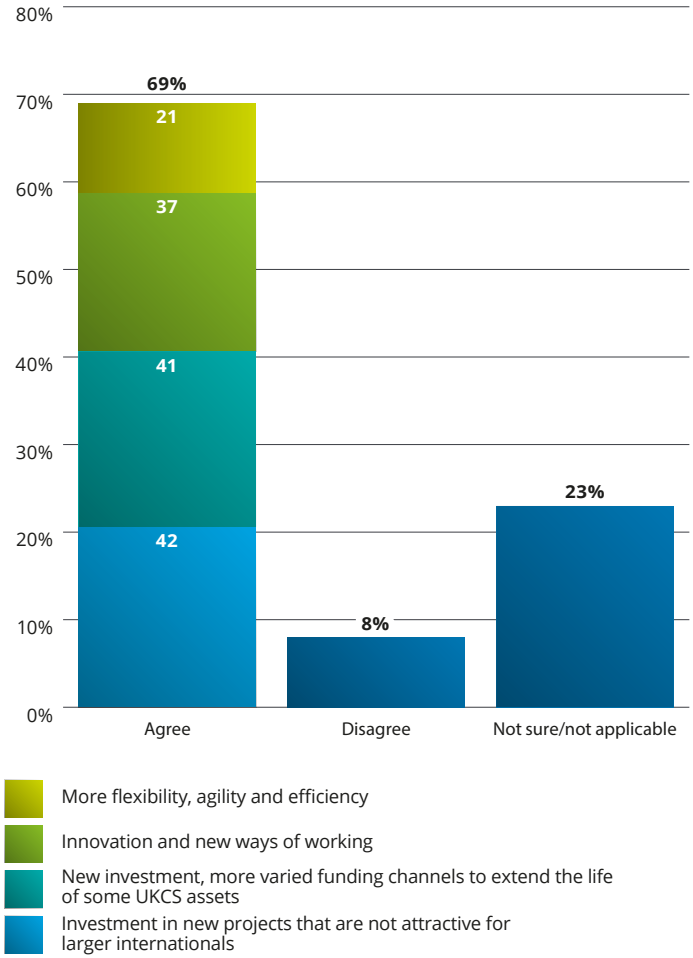
Given the willingness to invest (and the availability of capital), their leaner structure, speed of decision-making and directness, PE-backed companies are generally welcomed by the supplier community in the UKCS. Most PE-backed entities primarily rely on the services companies for skills they lack. However, not every PE company is equal, according to respondents with suppliers preferring those with a strong board and experienced management.

While the positive contribution of PE-backed companies is widely acknowledged, they also attract criticism for their potentially short-term focus on profits rather than the long-term interest of the basin, somewhat undermining the MER strategy.

PE-backed companies bring a different mindset and business culture to the UKCS. In general, respondents spoke of more open and direct dialogues focused on the value drivers of an engagement. Free of legacy structures, complex systems and processes, PE-backed companies have the ability to make decisions faster than large internationals and work with suppliers in more direct, efficient and inherently more collaborative ways. They are also able to deploy more innovative ways of contracting – such as gain share or open book contracts – that can provide better incentives for suppliers. While larger companies operate in a different environment, the way some PE-backed companies work with their suppliers may provide a helpful guide improving engagement with the oilfield services community for the mutual benefit of both operators and suppliers.

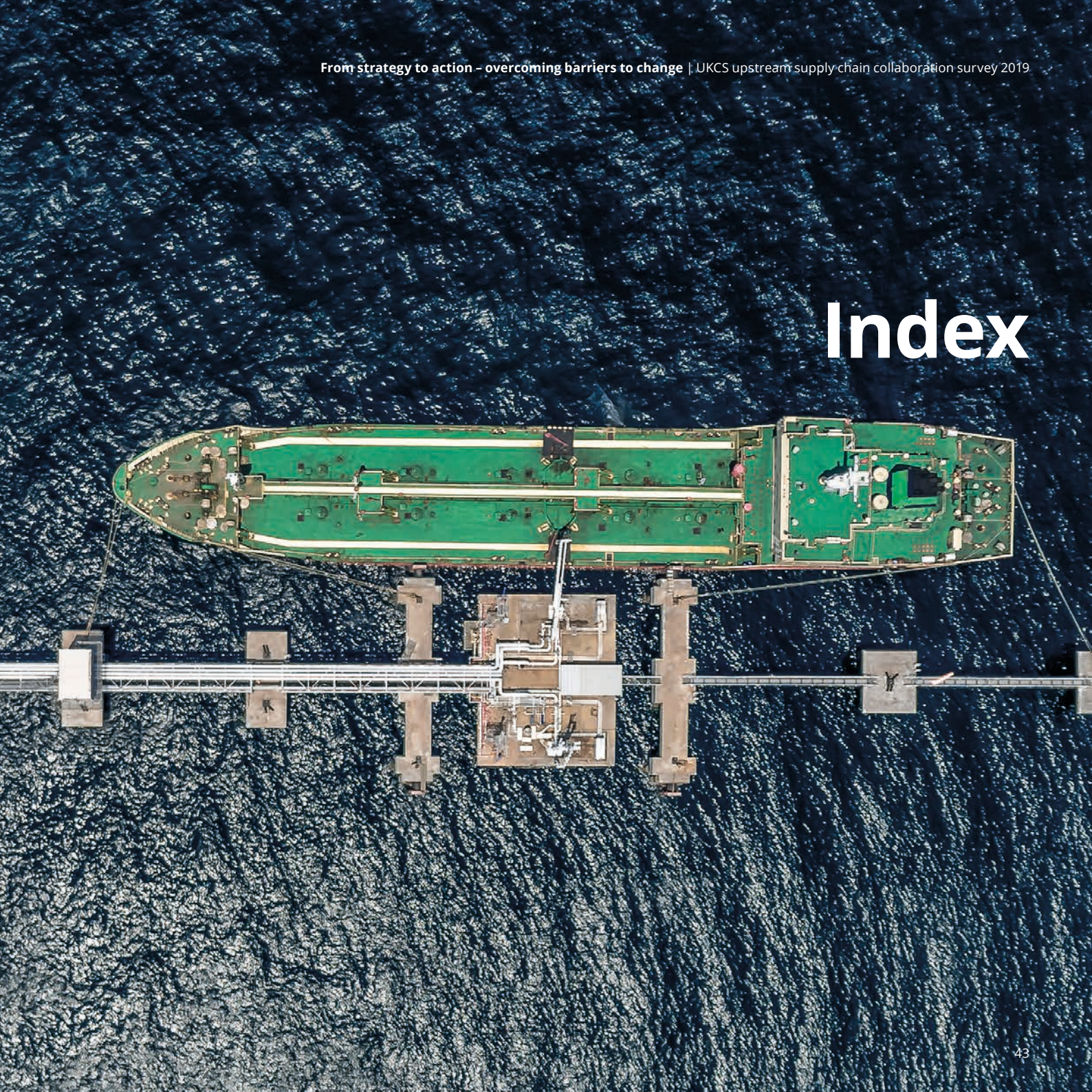
Figure 14. Is private equity going to have a positive impact on the UKCS and if so why?

% of respondents, # of those responding



2019 n=213 respondents
Source: Deloitte analysis

Index



What is the Collaboration Index?

The Collaboration Index is where respondents confidentially rate their partners as collaborators.

Respondents are asked to select a group of partners from among 20 operators and 21 suppliers. Respondents are then presented with 12 positive statements, or factors, across three main domains: Openness, Incentives and Business processes, and are asked to score their selected partners across each factor on a scale of 1 to 10. Operators rate suppliers and suppliers rate operators.

We then aggregate the ratings and produce a numerical score, or Index number, for each company: the higher the score, the better the rating of a company as a collaborator by its partners. These Index scores form the operators league table and the suppliers league table. The Index scores for individual companies remain confidential. However, every year we publish the aggregated scores for each of the 12 factors. These overall scores, broken down by operators and suppliers, and the factors, are shown in Figure 15, 16 and 17.

Companies receive their individual Index scores and their league table position at confidential feedback sessions at their request. We do not reveal the scores of other participants at these sessions.

Why the Index matters

The Index measures supply chain collaboration over time and provides an annual snapshot of how well companies are seen to be doing by their partners. The Index highlights areas of under-performance and helps companies assess their own position against their peers. This in turn can help organisations identify areas where closer collaboration with the supply chain/ operators can help improve performance.

The Index matters, because some companies that have been in the top quartile of the operators league table for a number of years tend to have some of the lowest operating unit costs in the UKCS. Organisations that have a highly collaborative business culture and behaviours, business models and operating models, as well as systems and processes that foster collaboration tend to complete projects below budget and ahead of schedule.

Collaboration Index 2019 results and five-year overview

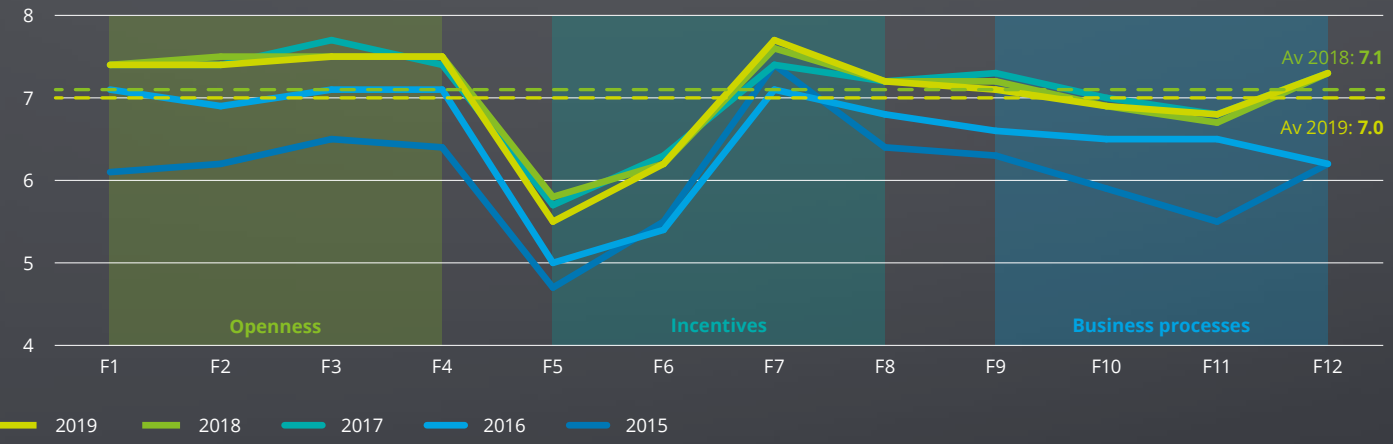
The industry-wide Index score is 7.0 in 2019, a slight decrease from 7.1 in 2018.

The majority of the Index scores were sustained at the same level in 2019 as last year, with the exception of the 'Financial incentives' factor (F5) that showed the largest drop and was the cause of the slight annual decrease in the overall industry-wide index. F5 has been the lowest scoring factor in every edition of the survey to date. Despite a gradual increase during the past five years, as many companies moved from direct cost reduction programmes to encompassing more business transformation projects, 2019 saw this factor fall below 2017 levels. Clearly, in 2019 many suppliers felt they could no longer continue reducing their prices without putting investment in future products, services and capabilities at risk.

In the Openness domain, the 'Willingness to collaborate' (F2) factor has slightly decreased and so did the 'Encouraging early input in a project' factor (F9) in the Business processes domain, but these were counterbalanced by the uptick in the 'Collaborating with them enhances your reputation' (F7) in the Incentives domain and 'Implementing change effectively' (F11) factors in the Business processes domain.

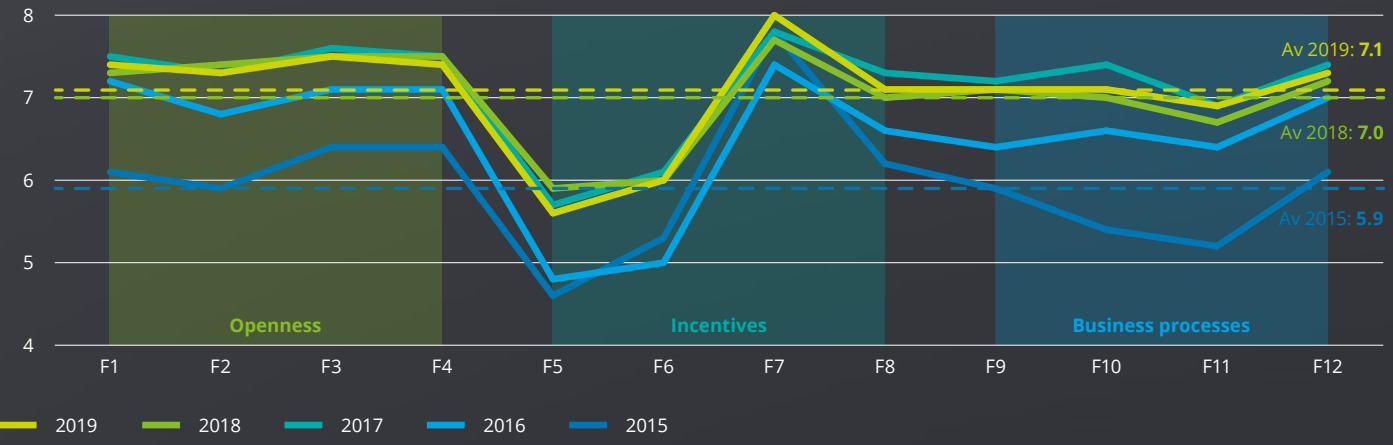
The Index matters, because some companies that have been in the top quartile of the operators league table for a number of years tend to have some of the lowest operating unit costs in the UKCS.

Figure 15. Collaboration Index, industry averages 2015-2019



Industry 2015 n=418; 2016 n=464; 2017 n=584; 2018 n=937; 2019 n=1,378 pieces of feedback
Source: Deloitte analysis

Figure 16. Operator averages 2015-2019



Operators 2015 n=392; 2016 n=281; 2017 n=395; 2018 n=648; 2019 n=916 pieces of feedback
Source: Deloitte analysis

Openness
- **F1:** Is a partner that communicates well with you.
- **F2:** Are willing to collaborate with you.
- **F3:** You can trust them when working together.
- **F4:** Overall, a good level of openness exists between you and them.

Incentives
- **F5:** They incentivise you financially to collaborate.
- **F6:** The terms of your commercial agreement with them effectively promote collaboration.
- **F7:** Collaborating with them enhances your reputation.
- **F8:** Overall, they help you improve your business.

Business processes
- **F9:** They encourage input from you early in the project.
- **F10:** They proactively seek out new ideas and solutions.
- **F11:** They have a track record of implementing change effectively.
- **F12:** Overall, it is easy for your organisation to work together with them.

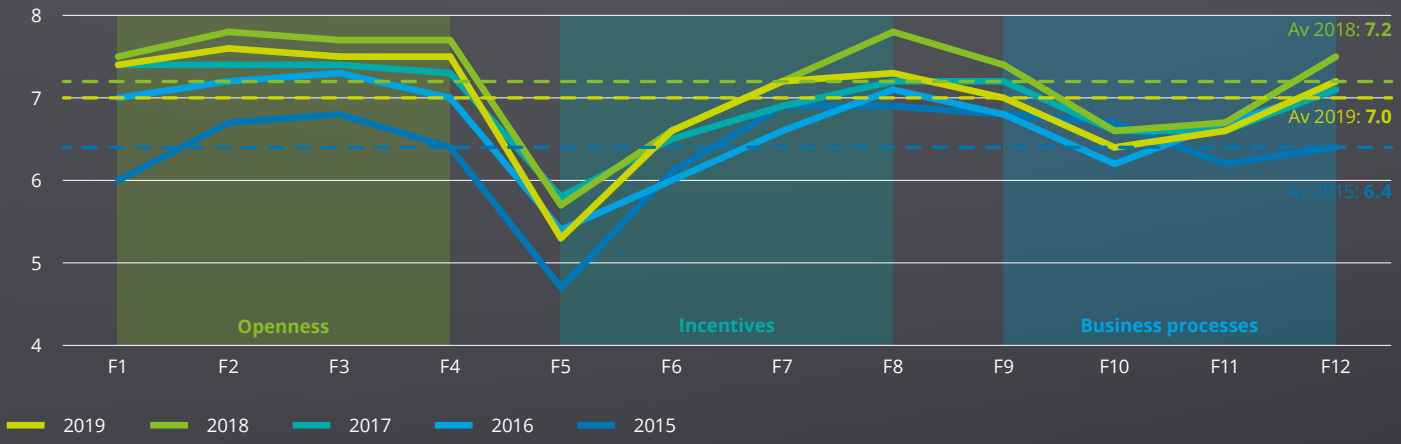
Operator and Supplier Index 2019 averages and five-year comparison

Operator average scores increased to 7.1 in 2019 from 7.0 in 2018 (see Figure 16). This is slightly higher than the Supplier average which has dropped to 7.0 from 7.2.

These scores suggest that operator attitudes towards collaboration have improved across all domains, but suppliers believe the financial incentives operators offer have deteriorated since last year. In 2018 we noted some operators changed their supplier engagement model. They developed multi-year contracts to reduce/avoid tendering across the life cycle of a project, increased transparency by using open-book contracts and introduced incentive schemes for the supply chain. While these schemes were welcomed by the supplier community, they are not the norm and further action is needed to incentivise collaboration with suppliers better especially now that activity across the basin in gradually picking up.

These scores suggest that operator attitudes towards collaboration have improved across all domains, but suppliers believe the financial incentives operators offer have deteriorated since last year.

Figure 17. Supplier averages 2015-2019



Suppliers 2015 n=26; 2016 n=183; 2017 n=189; 2018 n=289; 2019 n=462 pieces of feedback
Source: Deloitte analysis

Suppliers saw their average Index score drop to 7.0 in 2019 from 7.2 in 2018 (see Figure 17).

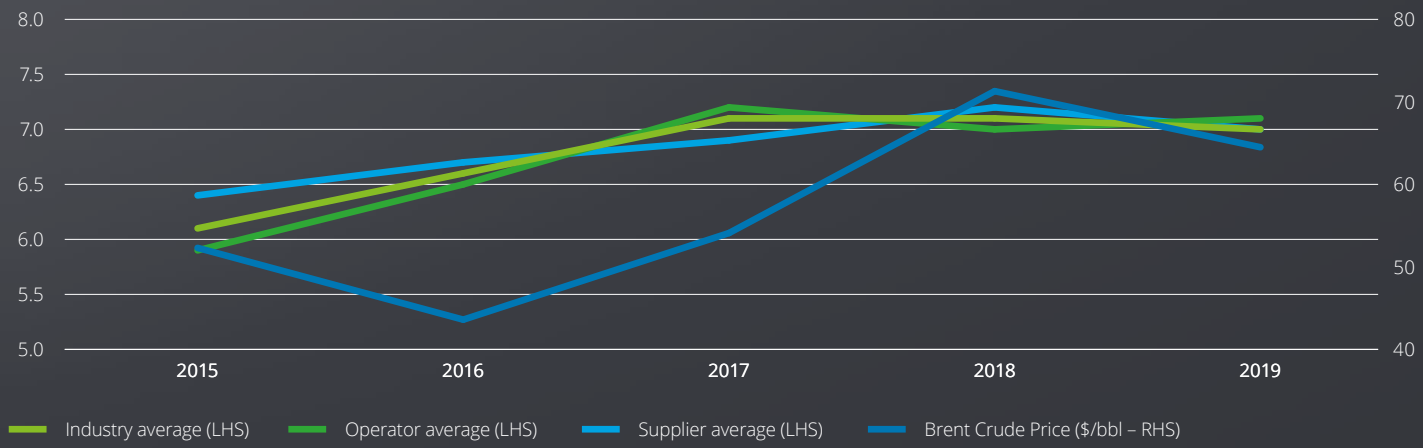
Most of supplier scores dropped from last year, with the largest decrease visible in the Incentives domain – the 'Financial incentives' (F5) and 'Overall, they help you improve your business' (F8) scores. This potentially confirms supplier inability to cut prices further from an operator perspective, but while suppliers indicate that additional cuts would endanger their businesses' future, operators still believe that further cuts could be made. This suggests that a level of trust has been lost between some operators and their suppliers.

Suppliers also received lower scores across the Business processes domain, in particular for the 'They encourage input early from you in the project' (F9) and 'Overall, it is easy for your organisation to work with them' (F12) factors. This highlights some frustration on the supplier's side as some feel that their efforts to get involved early are not encouraged and their innovative approaches, products or services – where they have been able to invest in developing them – are not taken on board.

Industry Collaboration Index versus the oil price: A five-year comparison

The comparison of the Brent crude oil price with the CI industry averages for the past five years indicates that a low oil price environment fosters collaboration (see Figure 18). This makes sense: operators and suppliers need to work together in a more efficient way for mutual benefit. However, because the oil prices stabilised at a higher level (above $50/b) since late 2016, and many companies have achieved a better cost structure leading to higher profitability, the CI industry averages plateaued and then somewhat declined.

Figure 18. Industry Collaboration Index versus the oil price



Source: EIA and Deloitte analysis

While in our view the decline in the 2019 is largely down to suppliers feeling fatigued after years of cost reduction, the industry needs to focus on maintaining a positive attitude towards collaboration and improving its collaborative mindset and behaviours.

The industry needs to make collaboration systemic across the business and not rely solely on incremental business structure, system and process changes.

66

The comparison of the Brent crude oil price with the CI industry averages for the past five years indicates that a low oil price environment fosters collaboration.

Framework for action

Framework for action

Our framework for action addresses the six key building blocks leaders require to develop and implement a successful strategy for collaboration at all levels of the organisation.

The role of leadership

Set the course

Challenge existing structures

Focus on the long term

Empower workforce

Mindset

We understand what collaboration is, what benefits it could bring for our organisation and how to do it effectively. We are comfortable with exploring ideas and taking risks.

Action

- Encourage leadership to explore new ideas, technologies and business models
- Provide examples of what is possible today and the benefits it would bring, using the latest digital technology
- Build a sense of excitement of what can be achieved

Goals

We have a clear vision and a set of goals for collaboration across the organisation.

Action

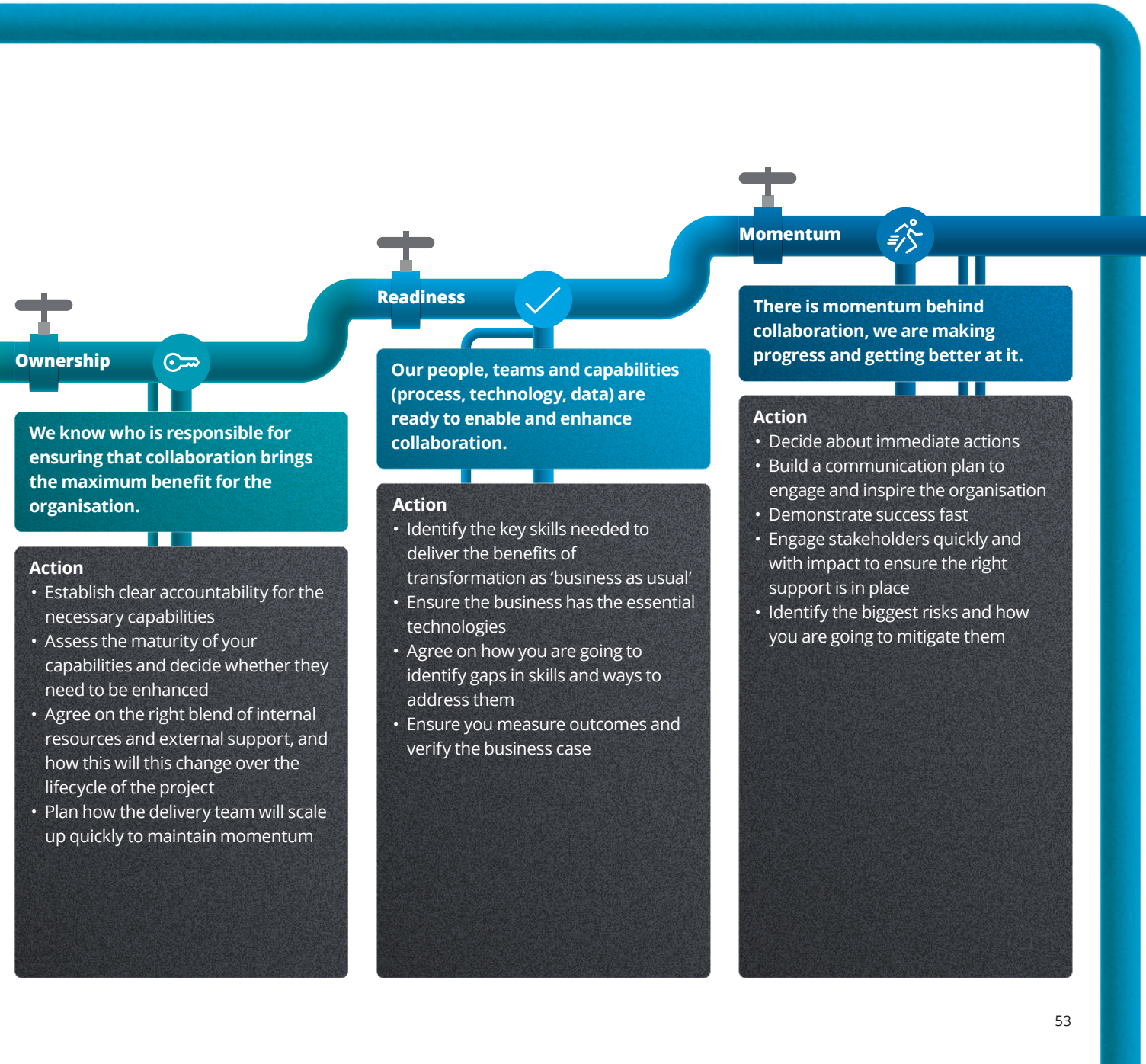
- Estimate the qualitative and quantitative benefits to the business
- Establish a list of critical success factors and enablers
- Establish a timeline for delivering short to medium-term goals
- Communicate success to build momentum

Value

We have agreed how and where value will be captured from collaboration and prioritise our efforts accordingly.

Action

- Identify priority business areas
- Identify a portfolio of activities necessary to reach the goal
- Compare your prioritised portfolio of opportunities with your business aspirations
- Decide on your first action to demonstrate success before scaling up delivery


Ownership
We know who is responsible for ensuring that collaboration brings the maximum benefit for the organisation.
Action
• Establish clear accountability for the necessary capabilities
• Assess the maturity of your capabilities and decide whether they need to be enhanced
• Agree on the right blend of internal resources and external support, and how this will this change over the lifecycle of the project
• Plan how the delivery team will scale up quickly to maintain momentum
Readiness
Our people, teams and capabilities (process, technology, data) are ready to enable and enhance collaboration.
Action
• Identify the key skills needed to deliver the benefits of transformation as 'business as usual'
• Ensure the business has the essential technologies
• Agree on how you are going to identify gaps in skills and ways to address them
• Ensure you measure outcomes and verify the business case
Momentum
There is momentum behind collaboration, we are making progress and getting better at it.
Action
• Decide about immediate actions
• Build a communication plan to engage and inspire the organisation
• Demonstrate success fast
• Engage stakeholders quickly and with impact to ensure the right support is in place
• Identify the biggest risks and how you are going to mitigate them

Collaboration in practice

Case study 1: The Arran field well construction campaign – Shell UK, Halliburton and Diamond Offshore

This case study focuses on the Arran field well construction campaign and looks at the working partnership between Shell UK, Halliburton and Diamond Offshore.

Shell UK became the operator of the Arran field at the end of October 2018. The field development, executed in conjunction with partners RockRose Energy and ONE Dyas, consists of four production wells and a 60km tie-back to the Shearwater platform.

As one of seven project sanctions in a 12-month ramp-up of Shell UK activity, the Arran campaign provided an excellent opportunity to build on Shell UK's recent tendering activity as well as try something different. Although the project was close to the final investment decision, Shell had committed both to maintain the project timeline as part of gaining operatorship and to change the well concept to a semi-submersible drilling unit. Therefore the business challenge to the Shell UK team was clear: structure the scope and present it to suppliers who can ensure safe project delivery without the normal lead-time on top of the ongoing multi-project activity.

Shell UK believed that the wells construction component of the campaign would suit a three-way arrangement of an operator, a drilling contractor and an integrated drilling services contractor. This structure allows a clear and simple linkage of project value drivers to remuneration for both contractors in a linked manner.

Subsequently, Shell UK decided to offer the wells contracts to supply chain partners who had already been contracted for previous campaigns. This saved a significant number of man-hours on tender activity as commercial rates and technical capabilities were already established. Shell UK approached Diamond Offshore and Halliburton, already contracted for the development drilling and P&A campaigns respectively.

What did the two collaborating companies do to identify the drivers and values for successful supply chain collaboration?
Shell UK, Diamond Offshore and Halliburton identified key common value drivers for successful project delivery. The three companies agreed to extend the terms of their existing contract to cover the new Arran campaign by adding a second semi-submersible rig, Ocean Valiant, from Diamond Offshore and a new fully-integrated services spread from Halliburton. Shell UK added two high-pressure, high-temperature (HPHT) exploration wells to the Arran development scope. This not only increased the term of the project, but also its technical complexity.

> *The early engagement between the three companies was the key to understanding organisational value drivers and technical challenges associated with the campaign.*

The following value drivers were explicitly included to make the extended scope more collaborative:

- Alignment of strategic intent – all three companies wished to grow their business in a recovering UK sector
- Deep and early involvement – the nature of both high value production wells and technically complex HPHT exploration benefit from early alignment on resources, technology and identification of value opportunities
- *A Culture by Design* approach introduced by Diamond Offshore that seeks to explicitly build a performance and HSE focused culture rather than allow one to evolve over time
- A replacement of traditional wells supply chain behaviours (master-servant) and mechanisms (time and materials) by partnership behaviours with a more open communication style and a high-value outcome-based focus directed towards the success of the campaign
- Embracing and working with Halliburton's *Control Point* process methodology which utilises management review of key project decision gates rather than double-up with additional assurance from the operator.

Diamond Offshore comments: "Learnings and market knowledge from our previous award were applied to the Arran development to directly agree a commercial structure that meets the project final investment decision threshold. A material scope and three-party flexibility then enabled fast-track value delivery through project acceleration. This resulted in long-term certainty with no duplication in effort or cost to respond to tender or agree terms. In addition collaborating with Halliburton, an integrated service company, deepens our opportunities in the supply chain to learn and enhance value for future developments."

Halliburton comments: "The early engagement between the three companies was the key to understanding organisational value drivers and technical challenges associated with the campaign. Listening and responding to specific challenges de-risked the project and allowed the three to arrive at a mutually agreeable and beneficial operating model based on the tenants of designing a fit for purpose engineered solution and a commercial model that encourages the right behaviours from all parties."

The departure from Shell UK's traditional sourcing methodology and communication style was recognised by the suppliers, leading to the building of trust across the relationship. This change in behaviours provided the catalyst both to challenge traditional post-award dynamics and to create an opening for different approaches to e.g. the specification and management of HPHT rig upgrades, and the introduction of new technology (e.g. Halliburton's *iCruise*). Furthermore, the relationship allows a deeper understanding of the all parties' risks, building a stronger performance management framework and reward mechanisms to deliver value for all three parties.

What impact did all this have on the project?
Collaboration between companies across different positions in the industry, with different cost structures, resource bases and fundamentally different business models is not intuitive. It must be deliberately built-up and nourished. The participants become partners in performance, working together with linked outcome-based incentive mechanisms. They collectively own improvement steps in the project opportunity funnels and are guided by a management steering panel to develop and sustain an aligned, inclusive, performance culture.

The partnership believes that the strong foundations of an open, trust-based, collaborative approach to the sourcing process and subsequent contractual relationship will not only help negotiate the occasional pitfall but should also provide 'exceptional returns for exceptional performance' for all parties.

Case study 2: Otter – an innovative subsea solution delivering on TAQA's life-extension agenda

This case study focuses on TAQA and its incumbent engineering and construction contractors and specialist supply chain partner, OneSubsea, who delivered a holistic solution to extend significantly the operational life and enhance production rates from TAQA's northern North Sea (NNS) assets.

The solution was derived from an opportunity to extend reliable production from the Otter field, a potentially stranded resource due to ageing infrastructure and high operating costs.

The programme of modifications commenced with the safe and timely isolation and bypass of Otter production and water injection at the Eider platform and concluded with the start-up of a bespoke multiphase pump (MPP) at Otter.

At the heart of the project has been a unique collaborative effort between TAQA and contractor OneSubsea, resulting in the design, construction and installation of a major new piece of subsea infrastructure. The successful delivery and service introduction of the bespoke MPP at Otter represents a series of operational and contractual 'firsts': the technology is a first for TAQA and delivering the equipment and installation under a single contract is a first for OneSubsea and their partners in the UK North Sea.

Throughout this major capital investment made by TAQA, the key challenge was ensuring that the project activity was carried out while maximising existing production as well as maintaining integrity. During the project, integrated planning and collaborative execution resulted in lower production impact than anticipated, thereby maximising production.

What did the two collaborating companies do to identify the drivers and values for successful supply chain collaboration?

One solution

For the MPP work, TAQA considered several possible supply chain and commercial model strategies. After a thorough tender that concluded with specialist vendor OneSubsea being selected, a new and distinctive contracting model was introduced, where the supplier of the major item of equipment was also tasked with providing the construction, installation, testing and commissioning.

OneSubsea applied a total project management-style framework that would see all design (including a collaborative approach with TAQA to create the functional specification), supply (inclusive of sub-contractor management and interfacing), construction, testing, installation and commissioning of the pump, performed under a single contract. It was the first time TAQA had committed to a contract model of this kind, rather than its conventional approach which would have been to source the installation element separately or have the installation contractor manage the supply element. TAQA also worked alongside OneSubsea to provide topsides operational and construction services for the project.

The MPP project involved fitting an advanced technological solution into mature infrastructure, a process likened to installing a state-of-the-art engine in an older car. The goal was to make everything tick and secure increased performance as soon as was practicable. OneSubsea managed the full supply and installation schedule with great success, helping to reduce future OPEX and maximise economic recovery.

What impact did all this have on the project?

It proved a very successful approach, with a highly skilled and motivated teams across TAQA and OneSubsea (alongside other sub-contractors) working together to deliver on a very tight schedule.

This streamlined approach meant deadlines were met, taking just 16 months from contract award to installation. Brought online in October 2018, the 36km link now constitutes the longest multiphase-boosted subsea tie-back in the UK North Sea.

The supply of the MPP added a new dimension to the long-standing relationship between TAQA and OneSubsea. Trust is built up over time and that is what projects like this help to create in the supply chain. When looking at a new technology or piece of hardware, operators need to trust the supply chain to deliver.

When looking at a new technology or piece of hardware, operators need to trust the supply chain to deliver.

The new 'one-stop-shop' model has numerous benefits for both parties, but it is really around trust and enabling the manufacturer to take on greater responsibilities, including project management, as well as schedule and sub-contractor management.

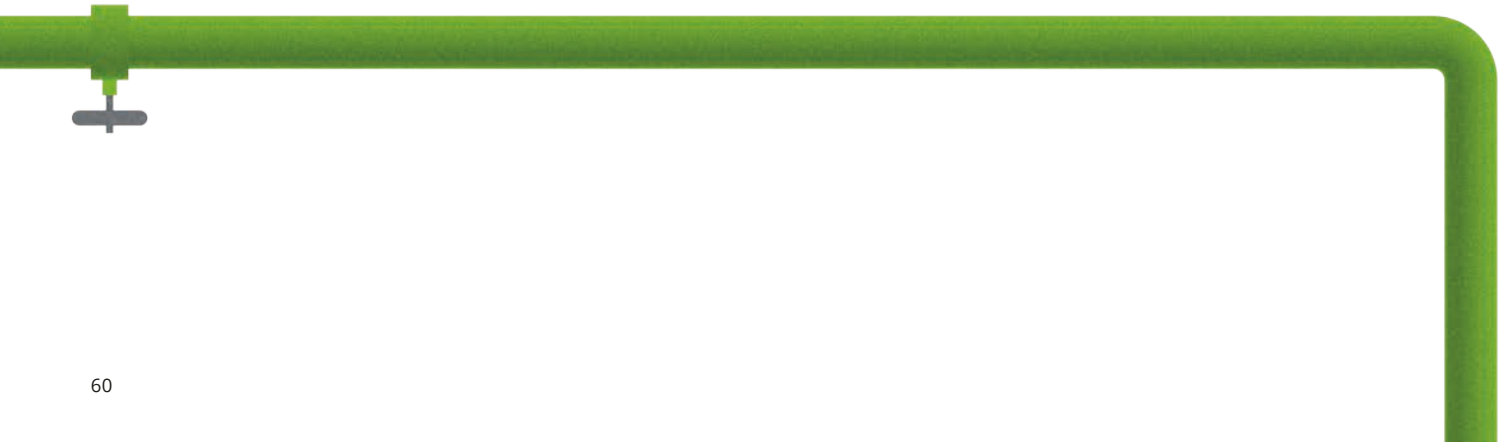
It also allows the operator to be leaner in terms of its own project management because it does not need to micro-manage, freeing up time, money and resources that can be directed elsewhere.

The MPP technology has been developed over the past 20 years, primarily for deployment in large-scale deepwater fields in the Gulf of Mexico and West Africa, but OneSubsea adapted it to create a fit-for-purpose North Sea solution. We hear a great deal about new technology being needed to unlock reserves, but this is an example where there is existing technology already out there that can be more widely applied.

What began as an infrastructure integrity review at TAQA's North Cormorant and Eider hub in 2016, quickly grew into something much more ambitious: a multi-faceted programme of work designed to secure several more years of production. The resulting strategy has transformed the economics of a network of assets and illustrates how taking the time to consider the big picture can deliver tangible benefits.

Production across the hub has increased by approximately 50 per cent. The operational life of the North Cormorant platform has been extended and – critically – a prolonged window of opportunity now exists for TAQA to pursue new development prospects.

The collaboration between TAQA and OneSubsea was recognised as a finalist in the Collaboration Award category at the Society of Petroleum Engineers (SPE) Aberdeen Offshore Achievement Awards in March 2019 and the Eider late life project, of which the MPP supply and installation was a key component, was included in the OGUK and ITN Productions Energy Of The Future programme which was premiered at SPE Offshore Europe.



Case study 3: CNOOC International learns from Chrysaor

As follow-up to the 2018 Collaboration survey, CNOOC International was keen to act upon the feedback it received in terms of our openness and business processes and to learn from best practice amongst our peers.

We made initial contact with Chrysaor at management level, which in turn led to highly constructive sharing sessions between the two companies. This provided many excellent insights into a wide range of supply chain practices, which we are now adopting. The most immediate of these is to introduce improvements in how we engage the market throughout our sourcing process, so that we can work more effectively with our supply chain partners towards desired end results.

This begins with drafting work-scopes at the outset, which more clearly define the required outcomes. This allows for alignment from the very start with prospective suppliers so there is no doubt about what success will look like when the work is complete. This may seem obvious, but all too often a scope of work can fail to define the fundamental purpose of the work and the critical success factors associated with it.

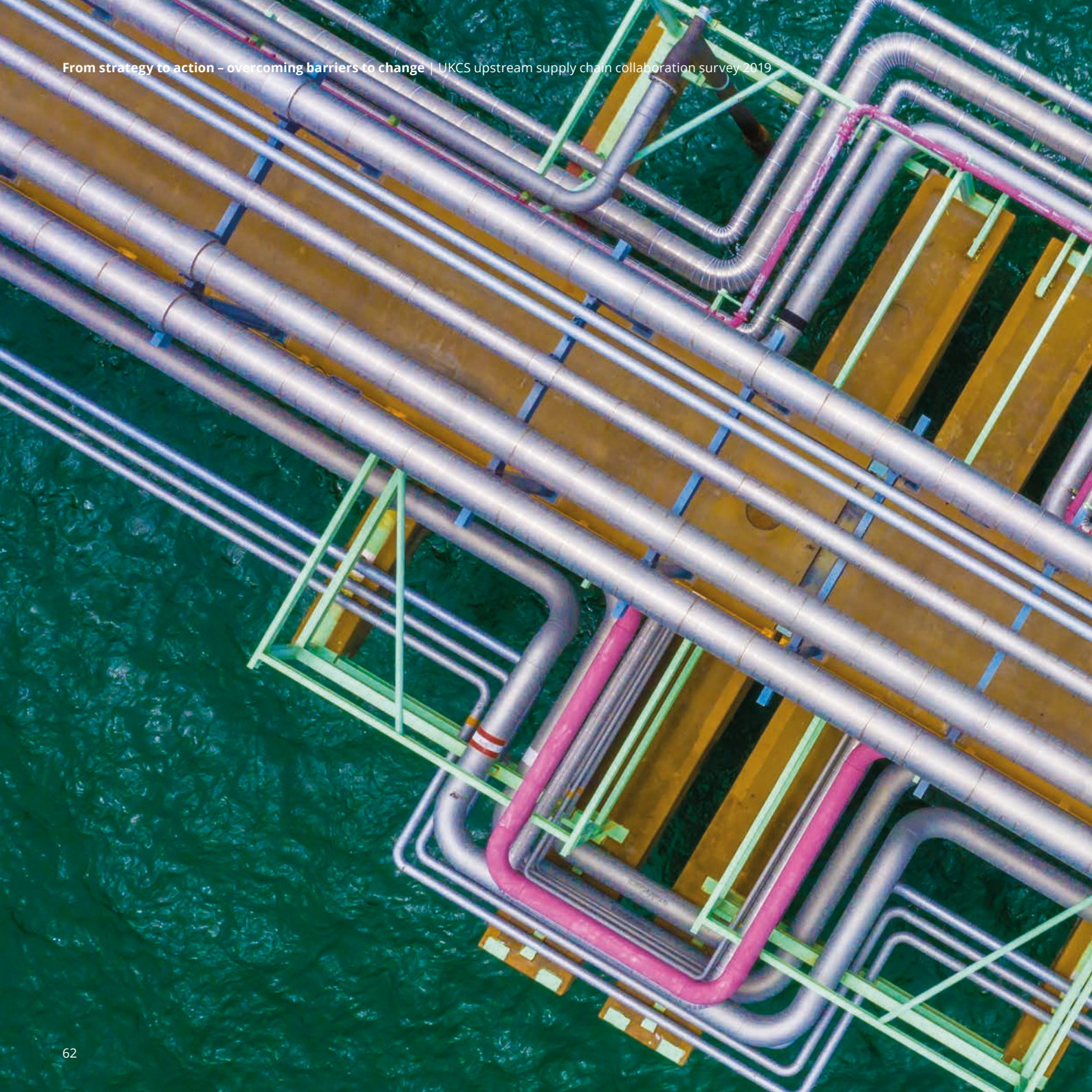
CNOOC International has increased the use of outcome-based work-scopes in its sourcing exercises and has trained contract managers to support this approach. This supports our objective to financially reward suppliers for delivering or exceeding a desired outcome.

CNOOC International has also adopted a process of 'coached bidding', which involves face-to-face engagement with suppliers before, during and after a sourcing exercise so that ideas and solutions from within the supply chain can become integral to the solution that is finally selected.

This iterative process allows for scope optimisation, helps prevent unnecessary prescription by the operator and avoids suppliers spending time on alternatives, which will only attract cursory consideration during tender evaluation. All suppliers are invited to offer feedback, whether they were successful or not, and the commitment is always to provide feedback on this feedback. This encourages continuous improvement, which can be built into future sourcing exercises to improve collaboration overall.

CNOOC International appreciates this openness and sharing opportunity. We believe the adoption of these practices will contribute significantly to positive relationships and future results with our supply chain partners.

All suppliers are invited to offer feedback, whether they were successful or not, and the commitment is always to provide feedback on this feedback.



Efficiency Task Force and Supply Chain Principles

Efficiency Task Force and Supply Chain Principles

The collaboration report has turned five years old. In that time, we have systematically developed our approach to collaboration and extended our survey participation. However, despite the great work undertaken by industry, the collaboration index has dropped from 7.1 to 7.0.

While our successes as an industry are clear with increased production and the reduction in costs being sustained, the report has highlighted that challenges remain when it comes to improving collaborative behaviours.

While we have seen improvement in collaboration between operators and suppliers overall, the index drop is linked to suppliers being less willing to engage and a degree of 'supplier fatigue' – the continued pressure to hold down costs with no upside in sight. Industry's supply chain should be collaborated *with*, and not collaborated *to*. If we are to be a truly collaborative industry, we must continue to move from cost-reduction efficiencies and towards changes that increase industry effectiveness.

OGUK has worked with industry to develop new Supply Chain Principles which outline how to increase effectiveness and efficiency to help improve industry performance, eliminate unnecessary costs, add value and boost competitiveness. Comprising ten key principles which incorporate content from the Supply Chain Code of Practice (SCCOP); the Tendering Efficiency Framework (TEF) & Industry Behaviours Charter (IBC), the Principles provide guidance to drive supply chain optimisation.

Results from this report highlight that whilst the majority of respondents are aware of the principles, 74 per cent do not follow them completely. The Supply Chain Principles capture key elements of supply chain practice and if applied consistently across industry, will result in an efficient and continuously improving sector.

The Efficiency Task Force (ETF) continues to be the vehicle for the industry to seek out and provide access to efficient practice across oil and gas activities. This, alongside the Continuous Improvement (CI) Network forms the foundation for industry to share ideas, promote good practice and understand what other organisations are doing to deliver improvements.

As an industry we need to harness innovation and new ideas and accelerate the rate of change. I would urge you to engage with the ETF and the CI Network to understand how you can learn from your individual feedback and continuously improve your business performance.

Emily Taylor
OGUK Continuous Improvement Manager

Coming together is a beginning. Staying together is progress and working together is success.

Henry Ford

Supply Chain Principles

Risk should be shared and good performance should be beneficial to all.

Contracts should reflect mutual SC payment and allow investment for the future.

All parties should ensure delivery competence and skill is in place.

Contract cancellations should be clearly communicated and not without good reason.

Purchasers shall optimise tender and audit requirements.

Tenders should be based on value and consider alternative solutions.

Alternate bids should be selected for award on merit.

Operators and contractors should discourage 'low ball' bidding to avoid unnecessary contract variations.

All parties should support respective labour agreements.

Operator MDs will ensure 'speaking up' by suppliers is not held against them.

Endnotes

1. OGUK, Business Outlook 2019.
2. Ibid.
3. https://www.ogauthority.co.uk/media/5382/oga_projections-of-uk-oil-and-gas-production-and-expenditure.pdf
4. OGUK, Business Outlook 2019.
5. https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Energy-and-Resources/gx-online-from-bytes-to-barrels.pdf
6. https://www2.deloitte.com/uk/en/pages/consulting/articles/digital-capital-projects.html
7. https://downloads.opito.com/downloads/Publications/UKCS-Workforce-Dynamics-The-Skills-Landscape-2019-2025.pdf?mtime=20190501185622
8. https://oilandgasuk.co.uk/product/economic-report/
9. https://www.ft.com/content/251e2496-2e0c-11e9-8744-e7016697f225

Contacts

Graham Hollis
Office Senior Partner
Aberdeen
ghollis@deloitte.co.uk

Julian Small
UK Industry Leader
Energy, Resources & Industrials
jsmall@deloitte.co.uk

Marc O'Connor
Consulting Leader
Energy, Resources & Industrials
maoconnor@deloitte.co.uk

Roman Webber
Tax Leader
Energy, Resources & Industrials
rwebber@deloitte.co.uk

Oliver Holder
Financial Advisory Leader
Energy, Resources & Industrials
oholder@deloitte.co.uk

Rajeev Chopra
Global Industry Leader
Energy, Resources & Industrials
rchopra@deloitte.co.uk

Bevan Whitehead
Oil, Gas & Chemicals Sector Leader
Energy, Resources & Industrial Products
bwhitehead@deloitte.co.uk

Anthony Matthews
Audit Leader
Energy, Resources & Industrials
anmatthews@deloitte.co.uk

Tim Archer
Risk Advisory Leader
Energy, Resources & Industrials
tarcher@deloitte.co.uk

Nick Clark
Director, Consulting
Energy, Resources & Industrials
nicclark@deloitte.co.uk

Author

Netti Farkas-Mills
Senior Insight Manager
Energy, Resources & Industrials
nfarkasmills@deloitte.co.uk


H

Deloitte.

Designed and produced by 368 at Deloitte. J18799