

A large, complex offshore oil and gas platform is shown in the middle of the ocean. The platform is a multi-level steel structure with various cranes and equipment. The sky is blue with some clouds, and the water is a deep blue. The platform is supported by several legs extending into the water.

# UNDERSTANDINGS AND PRACTICES OF 'COLLABORATION'

An ethnography of two disparate sub-sea  
engineering organisations in Aberdeen's oil  
and gas sector

Funded by



# *Executive Summary*

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# INTRODUCTION

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This executive summary condenses findings from a 6 month-long research project examining understandings and practices of collaboration in the UK Continental Shelf (UKCS). The full 25,000 word report is available from the OGTC website, or from Project Lead Dr Natascha Mueller-Hirth ([n.mueller-hirth@rgu.ac.uk](mailto:n.mueller-hirth@rgu.ac.uk)).

The project was conducted by researchers in the School of Applied Social Studies at Robert Gordon University Aberdeen (RGU). It **examined collaborative practices in subsea engineering companies in the Aberdeen-based oil and gas sector, through ethnography or embedded organisational observation**. We are not aware of any previous ethnographic research on collaboration in the oil and gas sector of this nature. Our study therefore provides unique insights into practices of collaboration that cannot be gathered through survey or questionnaire methods.

While collaboration has been a ‘buzzword’ in the UK oil and gas industry for at least two decades, the most recent downturn in the industry and the desire to improve efficiencies in a very mature basin have once again highlighted the need for collaborative behaviours, particularly with regards to marginal field developments in the UKCS. Our review of existing policy documents and industry reports shows that the terminology of collaboration is employed in a generalised and vague sense – as mutually beneficial relationships entered into to achieve common goals. However, there is **no adequate knowledge about the nuanced specifics, dynamics and complexities of (collaborative) relationships in the subsea sector and how partnering organisations define and enact collaboration in practice**.

Our research reveals highly diverse ways in which collaboration is conceptualised and enacted in local practices in the sector. We develop a *typology of collaboration*, which distinguishes:

- collaboration as transaction
- collaboration as communication
- collaboration as forced negotiation

- collaboration as restrictive
- collaboration as a strategy
- rejection of collaboration

We find that these significant differences in understandings and practices of collaboration are driven by the competitive oil and gas market climate of Aberdeen, and that this is what largely prevents different sub-sea organisations, each with their own practices of collaboration, from effectively working together.

Our study clearly demonstrates the need for more nuanced definitions to those used in existing industry guidance and reports.

In addition to the type of collaborative understanding and approach a company has adopted, we identify further *barriers to collaboration*: an industry-wide climate of competitiveness; and levels of trust within and between companies.

In the wake of these findings, we reflect how knowledge created from this study might shape collaborative practices in the future, including in a **future transition to renewables**. We put forward three recommendations:

- further research with marginal field operators
- research and investment into renewables skill transfers
- multi-disciplinary steering committee on collaboration between large and small organisations

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Many thanks to the participants in this study, who gave up their time and shared their understandings and experiences of collaboration with us.

## METHODS

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This ethnographic study is the stand-alone second phase of a wider project on Conflict and Collaboration in Oil and Gas, funded by the Oil and Gas Technology Centre and undertaken by a team of researchers from Robert Gordon University Aberdeen (RGU) and the University of Manchester. The first research phase involved semi-structured interviews with senior professionals in the oil and gas industry in Aberdeen (a full report from this phase of the project is available from the OGTC website).

When designing the ethnographic research for the second phase, we built on these initial insights, but seeking to develop more situated, in-depth knowledges of people's and organisations' *practices* – what they do – that cannot be captured solely from interviews, which gather *what people say they do*. In this current study, conducted solely by RGU between December 2019 and April 2020, one research team member undertook ethnographic research in two very different sub-sea engineering organisations in and around Aberdeen City. Participants were both observed and interviewed in their natural work setting, with a minimum of disruption to daily activities. A total of 220 hours of ethnographic data were collected.

Ethnography is an established social science method that seeks to make sense of people's lived experiences and organisational practices through embedded research, by observing and talking to people in natural settings – in this case, in their workplaces in subsea oil and gas firms. Use of this method, with the rich, deeply contextual data it produces, makes an important contribution to the literature on collaboration in oil and gas as well as to the existing industry research. Both academic and industry insights into collaboration have been mainly gathered through survey research, as well as sometimes through interview methods. By contrast, our study has allowed us to *understand how collaboration was practised, negotiated, challenged and resisted by employees at all levels of the participating organisations*, and how these practices might differ from what people say about collaboration in questionnaires or interviews.

## CONTEXT: COLLABORATION POORLY DESIGNED IN THE SECTOR

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Collaboration has been a buzzword in the UK oil and gas industry for at least two decades. While collaborative arrangements such as joint ventures have always been undertaken by companies, and partnering has been adopted since the early 1990s (Green and Keogh, 2000), collaborative obligations towards maximising economic recovery (MER) were formalised in the 1998 Petroleum Act. The 2014 Wood Report identified collaboration as one of the key capabilities the oil and gas industry needed to develop in order to achieve the objective of MER. The Oil & Gas Authority (OGA), created in response to the Wood Report, consequently focuses on collaboration as a key element of its Stewardship Expectations, developing a number of tools and indicators in order to develop what it calls a ‘culture of collaboration’ (Oil and Gas Authority, Stewardship Expectations, March 2017).

In 2019, Oil and Gas UK provided a compendium of information on industry collaboration collected over the last six years (OGUK, 2019). The most cited of these is The Wood Review, which includes forty-eight separate references to inter-organisational collaboration. However, a singular working definition of collaboration is lacking. This lack of a clear definition is mirrored in the 2017 UKCS Upstream Supply Chain Collaboration Survey (OGUK 2019). The survey collected data from more than 150 operators and suppliers in the UKCS. Key findings for 2017 indicated a rise in collaborative engagements and in the percentage of people scoring their collaborative engagements as successful. While such statistics are encouraging, it is unclear if definitions used by survey organisations are comparable, whether they represent relationships where mutual gain is defined as the primary outcome, whether their nature is transactional, involves subcontracting, and so on. There is also an absence of any qualitative data, examining what made collaborative ventures ‘successful’.

Still, OGUK employ these results as a marker of demonstrating shifts in collaboration practice from an aspiration to a reality. However, the tangible reality of how collaborative enactment occurs, and what specifically makes any existing collaborative efforts successful remains elusive, given the present available data. While the importance of collaboration is well evidenced in local industry publications and in the academic literature, neither body of work currently provides a tangible example for how collaboration is understood and enacted locally between UKCS sub-sea oil and gas engineering organisations in Aberdeen. This research gap prevents construction of a more nuanced definition of collaboration. The kind of nuanced in-depth knowledge that our study was able to produce is essential to ensure any future initiatives factor in the multiplicity of definitions sub-sea organisations attach to collaboration.

# OUR UNIQUE CONTRIBUTION: A TYPOLOGY OF COLLABORATION

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While industry documents use the term collaboration without a clear definition, our analysis, based on in-depth ethnographic data, produced a nuanced typology of collaboration.

## *Collaboration as a transaction*

A transactional understanding of collaboration was particularly present in smaller sub-sea companies and was anchored to the competitive nature of Aberdeen-based sub-sea contract bidding. For smaller sub-sea engineering houses, the most significant barrier to facilitating trust-based communications is a requirement to protect intellectual property (IP). This is because they are often only able to engage in a low number of client projects at any one time, with the ability of developing new, bespoke technology ranks their key commodity. IP protection is reflected in the reciprocal nature of transaction-led collaborations, evidenced for example in exchange-based strategical negotiations where organisations “traded” information in a transactional format. Such swapping of this information is what many engineers in smaller sub-sea organisations defined as collaborative practices. There was evidence of some of these “transactional negotiations” coming to fruition.

## *Collaboration as communication*

Within larger sub-sea engineering providers, collaboration was frequently articulated as a more social concept associated with actions and value of openness and transparency. Such actions and values were linked to a strong organisational culture predicated on internal sharing of information and a global organisational norm of honesty and candour. While smaller organisations conceptualise their primary capital as intellectual property, as outlined above, larger organisations frame the practice of openness itself as a primary source of industrial capital.

### *Collaboration as a forced negotiation*

Smaller sub-sea organisations, with a specialised technical focus, frequently engaged in what we call ‘forced’ collaborative practices with other small companies. To bid for complete projects, organisations must negotiate and form relationships with other sub-sea solution providers, who possess the size and skills to take on one or more of the remaining components of the wider project brief. This practice of forced collaboration has potential positives and negatives. Smaller sub-sea organisations have bespoke, expert knowledge accumulated over many years and may appear amenable to linking together in order to share knowledge and provide high-standard solutions. However, in practice this “chaining” can lead to problems stemming from a lack of standardisation in processes and procedures, impeding effective collaboration and client delivery.

### *Restrictive collaboration*

This understanding of collaboration relates to shifts in organisational identities of Aberdeen-based sub-sea organisations. We found that local collaboration is often attempted, but is constrained by an underlying competitive norm that emerged from an industry that is historically, as well as more recently due to the downturn, structured around rivalry. While this norm effects both small and large organisations, smaller firms are more vulnerable to any negative constraints preventing collaboration. This is because they are at greater risk of acquisition by larger organisation, less inherently financially stable, owing to their smaller operating margins, and have less free time to ‘trial’ collaborative approaches in their primary day-to-day working.

### *Collaboration as a strategy*

Strategic collaboration was observed primarily at larger sub-sea engineering organisations. It involves renowned engineering houses acquiring and integrating much smaller sub-sea engineering organisations, technology, and key people. This allows such firms to retain the benefit of being more financially stable

than most, while also offering the bespoke and expert engineering services often associated with smaller organisations.

### *Rejection of collaboration*

Some workers in the observed organisations distanced themselves from positive or meaningful connotations of the term. We found that “collaboration fatigue” was prevalent equally across both organisations and had derived from repeated, uncritical uses of the term to mean different things in different times, places and situations.

## FURTHER FINDINGS

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We build on this typology to identify three key barriers to collaboration.

### *Forms of collaboration and relationships to risk exposure*

As we outlined above, collaboration is defined and practised in diverse ways, which are informed by issues such as the specifics and contexts of industry work, local financial climate, organisational size and internal culture and processes. This is problematic, because these diverse definitions are often incompatible.

Smaller engineering organisations prioritise protecting information as it represents significant IP. Collaboration is understood as a transactional practice where information that may destabilise the firm's current market position is protected through an absence of direct sharing. By contrast, for larger, more financially stable and commodity-diverse, organisations, successful external collaboration is most commonly defined by the extent an external collaborator can share such information in an open and transparent way.

A possible future model towards marginal fields collaboration could see larger organisations 'twinned' with smaller one. While such smaller organisations would likely insist on significant IP protection clauses – which currently operate as barriers to collaboration – larger organisations may be able to negotiate such requirements using their established supportive strategies and experience. Such collaborative relationship would be defined by the key principles of information sharing, mutual technology benefits, and shared outcomes – principles opposed to the contemporary focus for smaller organisations on financial gain.

### *Industry climate of competitiveness*

While participants defined this climate as “always being present”, the specifics and meanings of competitiveness have changed. Historically, competitiveness was defined as a “healthy competition”. This was linked to notions of inherent North Sea financial stability and a secure price of oil. However, following the sharp fall in oil price in the mid-2010s, the definition of competitiveness is now associated with themes of “survival at all costs”.

When considering collaborative efforts for marginal fields projects, and taking the existing local climate into account, it may be prudent to factor at least some level of IP into future collaborative efforts. IP vis-à-vis collaboration was frequently perceived as a barrier that constrains effective communications. However, while existing industry materials suggest “being more open” and “being open to collaboration”, necessary protections for IP must be factored into such suggestions to make these ideas realistic for the current climate.

### *Building trust*

Considering the above findings of stratified views of collaboration and competitive industry climate, the building of trust is central to overcoming such barriers towards effective collaboration. Our research concludes that the primary stalemate preventing immediate progress in this area is a lack of efforts to clarify how such trust-focussed relationships can be developed within the presence of a normalised competitive local climate.

It is presently unclear if trust is the main barrier to engaging operators into triadic relationships with multiple sub-sea engineering organisations. This uncertainty stems from the lack of empirical data exploring operator perceptions, cultural attitudes and existing collaborative practices with multiple sub-sea operators vis-à-vis marginal field projects.

### *Facilitators to collaboration*

The most significant facilitator of external collaboration is effective internal collaboration. This is best defined as the routine interactions between different, physically stratified, departments with distinct purposes and responsibilities. At the larger organisation in our study, such interactions were underpinned by established cultural values of trust, transparency and openness, while financial concerns were downplayed in interactions. The positive cultural effects of such values were evident in processes of information sharing, collaborative negotiating over contracts, and the common presence of multi-disciplinary teams to deal with external client and supply-chain needs. The ingrained nature of such values led workers to prioritise collaborative practices through interactions with external clients, whether serving, or served by, the firm.

## RECOMMENDATIONS

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*Further observation research with marginal field operators into collaborative practices, to add to the insights gained from ethnography with subsea engineering companies*

Our study clearly demonstrates the need for more nuanced definitions than those used in existing industry guidance and reports. We showed that each sub-sea organisation contains cultures with different perceptions and enacted practices of collaboration. We can therefore assume that operators, field owners, and drilling contractors all hold disparate and possibly incompatible understandings of the term collaboration, and notions for how this may be successfully enacted in practice. Future research will need to engage with these stakeholders in the UKCS.

*Research and investment into renewables skill transfer, and what facilitators of, and barriers to, skills transfer exist to enable the energy transition*

Our study identified a clear desire, by many workers, to translate their sub-sea engineering skills into new local renewables projects and future opportunities. At present, no existing research addresses on how such a local skill-transfer may take place, nor how notions of collaboration may be an important part of making skill-transitions a reality.

Such research and subsequent investment will need to take into account Aberdeen's unique culture of competitiveness. In this study, we have demonstrated that the climate of competition leads to the fracturing of collaborative relationships via knowledge-sharing and curtailing information transfer. While skill-transfers from hydrocarbons to renewables provide a potential new financial opportunity for the city, collaboration may be similarly hampered in this sector by the presence of engrained local cultural values established in the local hydrocarbons market. The challenge for future research is to investigate and examine successful skill-transfers processes in a manner that

realises the positive potentials of moving existing hydrocarbon expertise into a renewables market, yet also encourages engineers to leave behind any negative notions of competitiveness that may hamper collaborative working in this new sector.

*The establishment of a multi-disciplinary steering committee on collaboration between large and small organisations*

A multi-disciplinary, marginal fields steering committee should be established to approach the problem of how to foster collaboration between operators, and large and small sub-sea engineering organisations. Such a committee should consist of representatives from all levels of organisations, from grassroots engineering graduates to senior management, including participants from operators and marginal fields owners, smaller independent and larger corporate engineering organisations, academics with relevant research experience, and representatives from regulators with locally-focussed interests. The goal of such a committee will be to foster dialogue on collaboration and conflict and promote the interlinking of participating organisations together.

We are not aware of any previous ethnographic research on collaboration in the oil and gas sector of this nature. Our study provides unique insights into practices of collaboration. It is not possible to accurately reflect such in-depth data in an executive summary. We therefore recommend engagement with our full report, which includes a far greater number of findings, drawing on the detailed social science data we generated.

The full and detailed report is available from the OGTC website or by contacting Dr Natascha Mueller-Hirth ([n.mueller-hirth@rgu.ac.uk](mailto:n.mueller-hirth@rgu.ac.uk)).

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