

North Sea Oil & Gas Project Success

Survey Report







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Executive Summary

In seeking information on how modern-day projects fare and what influences their outcomes, little information could be found that was specific to oil and gas. Still less could be found that related to the North Sea province. Hence, a survey was undertaken, the main results of which can be summarised as below.

Outcomes

- The success rate for projects in the oil & gas sector is similar to that across all sectors
- Performance against specific project outcomes for the sector cost, schedule, quality and scope is parlous, but slightly better than that achieved across all sectors
- Benefits management is lacklustre, albeit on a par with industry in general
- High budget projects succeeded much less often than those with a lower price-tag
- A significant minority of business critical or highly important projects fail
- Projects driven primarily by quality or scope tend to succeed more than those driven by schedule or cost; in fact cost driven projects have a very poor record
- There are indications that oil & gas projects are better at change management than their counterparts in other sectors
- There are indications that project quality management is better optimised in oil & gas than elsewhere

Factors Influencing Success

- Good use of the classical project management (PM) disciplines tends to produce better results, the most beneficial being given in the body of the report
- Use of a standard project management process has a beneficial effect
- Project management training has a beneficial effect on project outcomes
- Use of a Project Management Office (PMO) has a beneficial effect
- "Soft" factors are perceived to have an influence (for good and bad) on project performance

Success Trends

- Project success is more likely to occur in an organisation that has built the habit of doing so
- Project performance over the year preceding the survey had either stayed the same or had slightly worsened



Background to Survey

Projects in the North Sea oil & gas sector have a history stretching back to the mid-1960s, and this history is like the curate's egg – it is mixed. Although a lot of work has been done to examine this subject across sectors, very little has been done that is specifically targeted at oil & gas, and none that looks specifically at the North Sea basin. It sought to find out whether projects in this sector and area succeeded, and what made them do well or do badly. The survey was conducted in the autumn/winter of 2015, at a time when the industry was suffering a huge and unprecedented contraction following a sharp and sustained fall in the price of oil. Immediately prior to that, it had experienced a frenetic project environment, where demand outstripped supply in many areas.

Profile of Responders

The survey attracted 34 responses, and the small size of the sample should be taken into account when considering the results and the interpretations offered. The respondents were self-selecting, as they took the opportunity to respond following broadcast notifications on social media or bulk email.

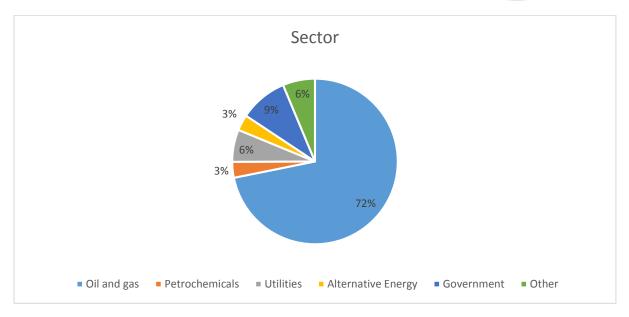
Responders held a variety of roles, but the majority were project managers, senior project managers or project leaders. A further 12% (in the "Other" category) were also in leadership positions (e.g. account manager) with project responsibility. A significant minority were project engineers.



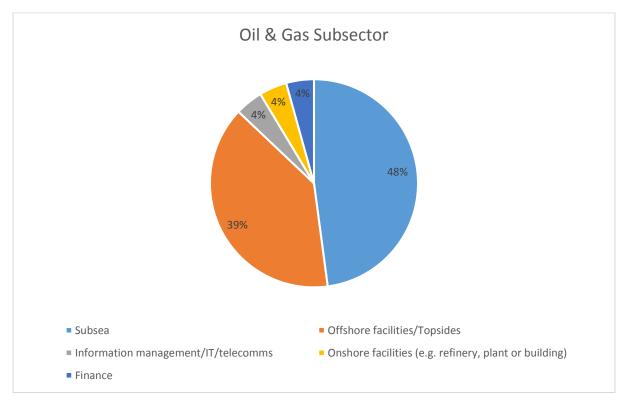
Profile of Projects

Projects came mostly from the oil & gas sector, but those not in the industry included significant minorities from government and utilities. These are favourable proportions, since there is enough data to compare the performance of oil & gas projects with that of other sectors.





Of the oil & gas projects, the greatest number were subsea projects followed by offshore topsides or facilities projects.



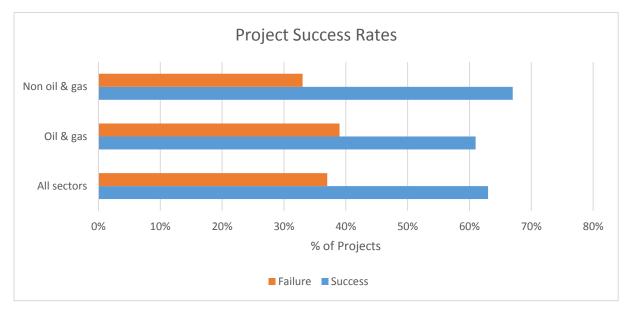


Project Outcomes

One of the aims of the survey was to determine the rate of success the oil & gas sector compared to all sectors and also to look in more detail at specific outcomes for oil & gas projects. Detailed examination was made of the factors that are traditionally held to indicate project success (cost, time, scope & quality) but the assignment of success or failure of a project was left up to the responder, thereby recognising that project success can sometimes legitimately be judged by other means. Only a small number of projects actually achieved or surpassed all targets, but many more were considered successful by taking into account all factors.

Success or Failure?

As would be expected, the survey encountered a mixture of success and failure. The responses would suggest that the success rate in the oil & gas sector does not differ widely from elsewhere.



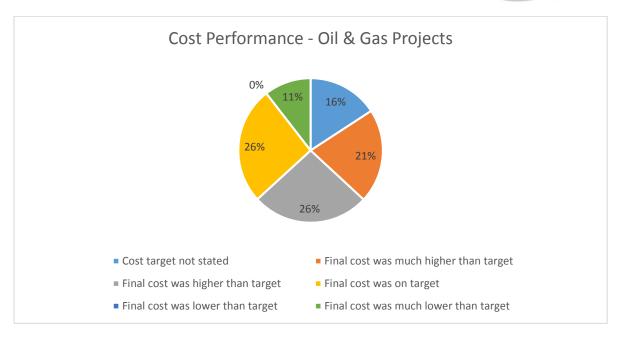
On the face of it, it would seem that topsides projects fare slightly better than their subsea counterparts: 57% of subsea projects were successes as compared to 67% of offshore topsides/facilities projects.

Interestingly, 100% of the government projects were deemed a success, and this will be further examined later in this report.

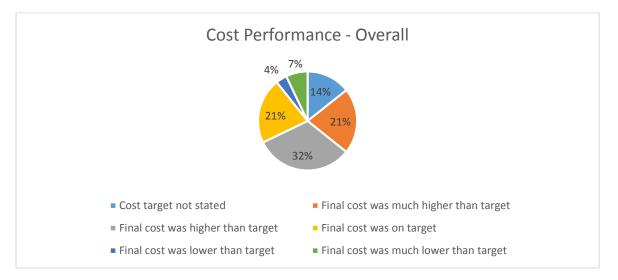
Project Cost Performance

Offshore oil & gas projects did not do well at meeting cost. Only slightly more than a third of oil & gas projects met or bettered their cost target. This leaves a large proportion that did not do so. Worryingly, 16% of projects did not state a cost target.





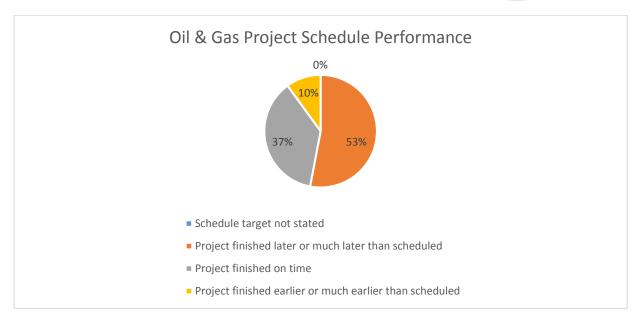
However, this is slightly better than the results from projects in all sectors, where just under a third met or bettered their cost target. Similarly, 14% of projects in all sectors did not articulate a target.



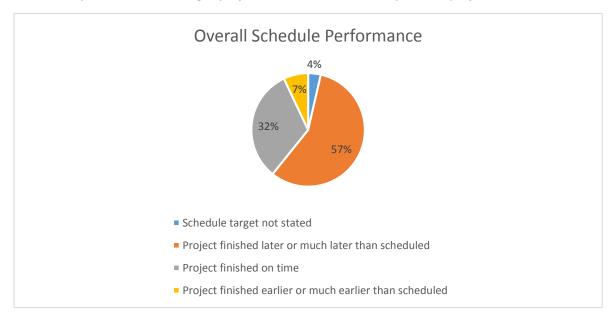
Project Schedule Performance

In terms of schedule performance, oil & gas projects did better here than against cost, but still not very well. Just under half of oil & gas projects came in on time or earlier than scheduled. All projects in this sector stated a schedule target.





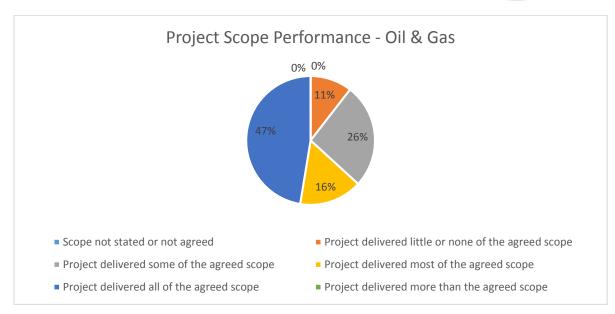
As for cost performance, oil & gas projects did better when compared to projects from all sectors.



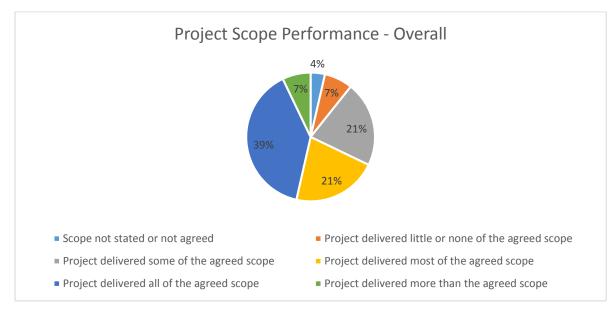
Project Scope Performance

As with cost & schedule performance, oil & gas projects delivered a mediocre performance against scope targets. Just under half (47%) delivered all of their scope and none delivered more. Encouragingly, all stated scope.





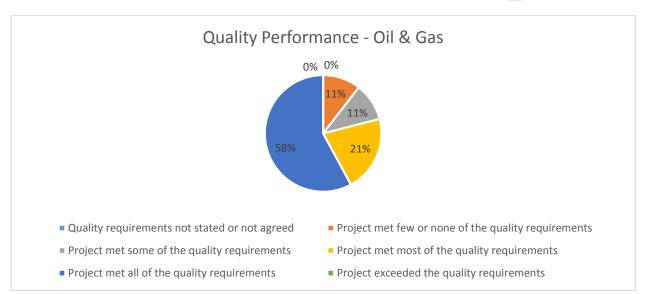
Oil & gas scope performance is slightly better than the results from all sectors, where 46% of projects delivered all (or –interestingly – more) than the agreed scope.



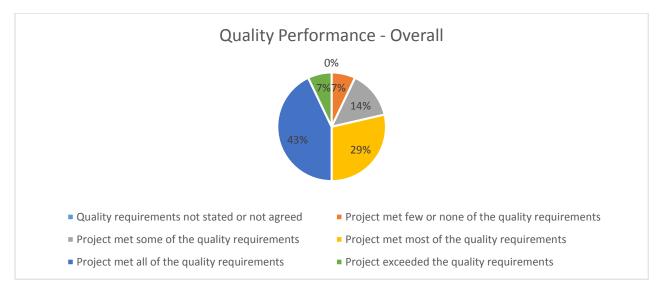
Project Quality Performance

Oil & gas projects fared somewhat better against quality goals, where nearly three fifths met all of their quality requirements.





This is a better profile than that for projects across all sectors, where only half of projects met all or more than the agreed quality requirements. All projects, from whatever sector, stated quality requirements.

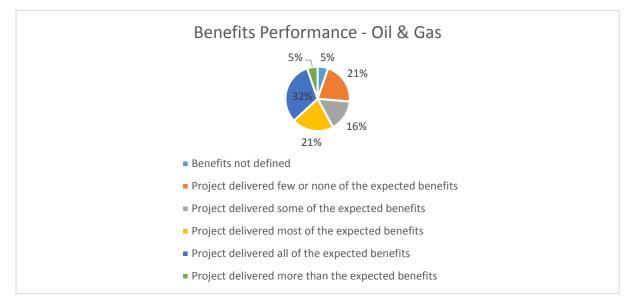


Interestingly, projects outwith the oil & gas sector sometimes delivered more than their agreed quality requirements. This may have been for good reasons, but as projects in the oil and gas sector did not exhibit this tendency, they can perhaps be said to manage quality more optimally.



Project Benefits (Performance to Date)

Just under a third of oil & gas projects delivered all of their expected benefits, with a further 5% delivering more than expected. 5% of projects did not state benefits.



This is a similar picture to that across all sectors, where the same proportion delivered all of expected their benefits, and a further 14% delivered more. Here, 7% of projects did not state them.





Project Process Performance

The survey sought to establish how well projects are performing in the key disciplines or activities of project management, and which ones affected outcomes. The tables below shows the percentage of successful projects that scored each factor "good" or "excellent" and also "poor" or "non-existent". The key figure is the delta, which shows where the effect of a given factor is most marked.

	% Good &	% Poor &	
Category (Oil & Gas)	Excellent	Not Present	Delta
Collaboration with internal organisation	40%	0%	40%
Safety management	40%	5%	35%
Degree of trust in internal organisation	35%	0%	35%
Stakeholder management	30%	0%	30%
Project leadership	35%	5%	30%
Defining the Project Management Plan or Project Initiation Document	30%	5%	25%
Customer management	30%	5%	25%
Collaboration with client or sponsor	30%	5%	25%
Schedule management	35%	10%	25%
Risk management	25%	5%	20%
Governance	25%	5%	20%
Quality management	25%	5%	20%
Defining the business case	30%	10%	20%
Contract management	35%	15%	20%
Closeout and handover	30%	10%	20%
Project communications	25%	10%	15%
Degree of trust in client or sponsor	30%	15%	15%
Pre-project activities	20%	10%	10%
Start-up activities	20%	10%	10%
Defining project KPIs	20%	10%	10%
Procurement management	20%	10%	10%
Vendor performance	20%	10%	10%
Cost management	20%	10%	10%
Benefits management	20%	15%	5%
Resource management (human or otherwise)	20%	15%	5%
Capturing lessons learned from this project	20%	15%	5%
Collaboration with vendors	15%	10%	5%
Change management	20%	20%	0%
Vendor management	15%	15%	0%
Degree of trust in vendors	15%	15%	0%
Implementing learnings from other projects	20%	25%	-5%
Value management	15%	20%	-5%

For oil & gas projects, this analysis seems to indicate that the following activities are the more significant influencers of project success:

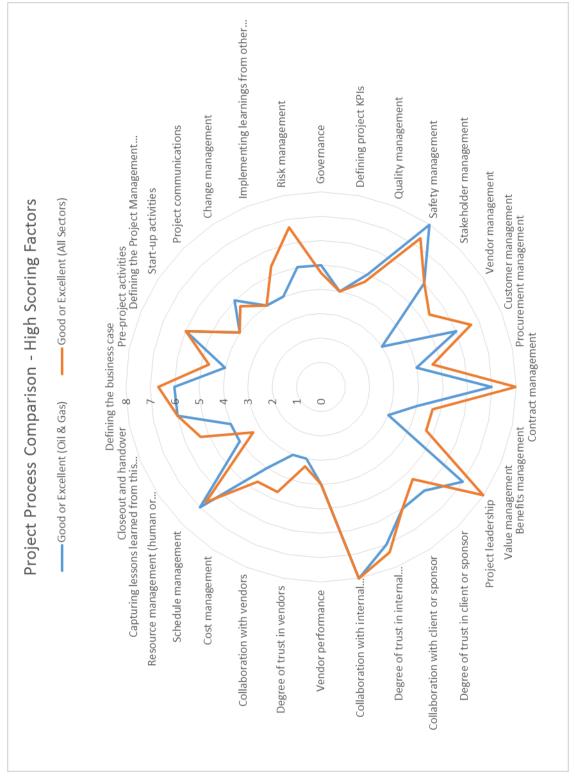
- Collaboration with the internal organisation
- Stakeholder management
- Degree of trust in the internal organisation
- Safety management
- Project leadership



This profile is also similar to that derived from projects across all sectors, where the higher scoring factors are slightly different, and the delta is generally slightly more marked. The corresponding data from project failures supports the above, with the factors marked as most lacking in that dataset being very similar to the ones seen as most influential in project success.

	% Good &	% Poor &	
Category (All Sectors)	Excellent	Not Present	Delta
Collaboration with internal organisation	40%	0%	40%
Project leadership	40%	3%	37%
Degree of trust in internal organisation	37%	0%	37%
Safety management	37%	3%	33%
Contract management	40%	10%	30%
Risk management	33%	3%	30%
Stakeholder management	30%	0%	30%
Customer management	33%	3%	30%
Defining the business case	33%	7%	27%
Defining the Project Management Plan or Project Initiation Document	30%	3%	27%
Schedule management	33%	7%	27%
Collaboration with client or sponsor	30%	7%	23%
Closeout and handover	30%	7%	23%
Governance	23%	3%	20%
Quality management	23%	3%	20%
Pre-project activities	23%	7%	17%
Vendor management	27%	10%	17%
Capturing lessons learned from this project	27%	10%	17%
Start-up activities	20%	7%	13%
Defining project KPIs	20%	7%	13%
Vendor performance	20%	7%	13%
Project communications	23%	10%	13%
Procurement management	23%	10%	13%
Benefits management	23%	10%	13%
Degree of trust in client or sponsor	27%	13%	13%
Collaboration with vendors	23%	10%	13%
Cost management	23%	10%	13%
Value management	23%	13%	10%
Implementing learnings from other projects	27%	20%	7%
Resource management (human or otherwise)	17%	10%	7%
Change management	20%	17%	3%
Degree of trust in vendors	17%	13%	3%

The difference between results from the oil & gas sector and all sectors can be seen more clearly when shown on a spider plot as below.



Cephas







Government Projects

Those responders who worked in the Government sector reported 100% project success. It should be noted that these projects were only a small proportion of the sample. It is also true that none of them met all of their project goals, but were considered successful because of their benefits performance. That said, they had the following characteristics:

Question	Whole Survey Response	Government Projects
Sector	All	Government
Success Rate	63%	100%
Budget at Start	£0 to >£100m	Between 0 and £5m
Duration at Start	Between 1 month and 5 years	Between 1 month and 5 years
Complexity	18% had 6 or more factors present	33% had 6 or more factors present
Benefits Performance	46% delivered all benefits or more	All delivered all benefits or more
Importance to Organisation	Ranged from somewhat important to critical	All were important or very important (none were critical)
Revenue Generating?	68% revenue generating	None revenue generating
Key driver	A mixture	Quality or scope
Change Experienced	75% moderate or high	All moderate or high
Standard Process used?	89% said "yes" or "sometimes"	All said "yes" or "sometimes"
PM Qualifications Present?	58% said "some"; (77% said "most" or "some")	All said "some"
PMO Used?	54% used a PMO	67% used a PMO
PM Training Present?	65% said "most" or "some"; (42% replied "most" or "all")	All said "most" or "some"
How PM is Regarded	73% were well regarded	All were well regarded
How Projects Succeed in Organisation	77% said "some" or "most"; (54% said "all" or "most")	All said "some" or "most"
Number of responders	34	3

Government projects would appear to benefit from better use of standard process, PMO, PM qualifications, PM training, benefits management and the esteem of the organisation. These may account for the enhanced success of their projects, but given that the sample size is so small, this tentative conclusion warrants further study.

Effect of Project Characteristics

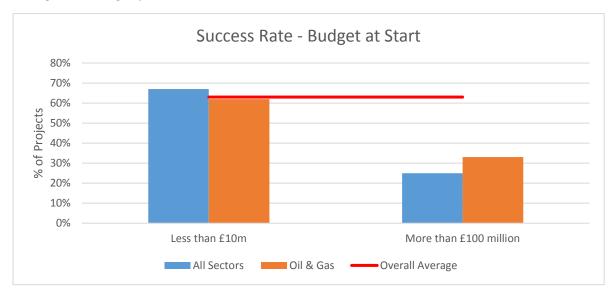
All projects have descriptive characteristics. These include their size (by cost or timescale), their complexity and the amount of change they experience. The survey looked at these and similar factors to determine whether they influenced project outcomes.

Project Budget (at start)

Across all sectors, 75% of projects had starting budgets below £10m with the biggest concentration of projects (54%) having budgets between £1m and £10m.



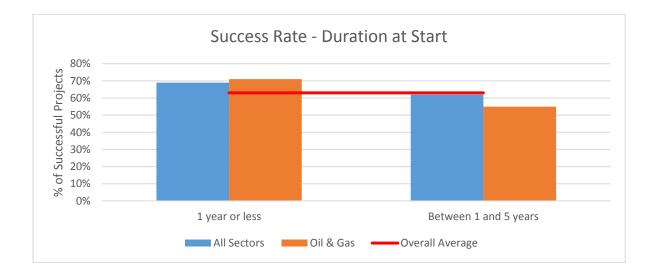
Some projects, however, had much higher values (more than £100m) and the survey revealed a sharp reduction in success rates for these projects. Whereas the lower value projects had success rates close to the average for all projects (regardless of sector) the highest value projects were less than half as likely to succeed. This trend is apparent in all sectors, albeit that higher value projects in oil & gas fared slightly better.



Project Duration (at start)

Half (50%) of all the projects surveyed lasted between 1 and 5 years and a similar number (46%) lasted less than a year. No project lasted more than 5 years.

When all sectors are considered, projects that last a year or less succeeded slightly more frequently than their longer counterparts, but there is not a strong separation. This trend is also reflected in the success rates for oil & gas projects, where the separation was greater. In neither case were the rates greatly different from the overall project success rate, so we conclude that project duration has little effect on success.





Project Complexity

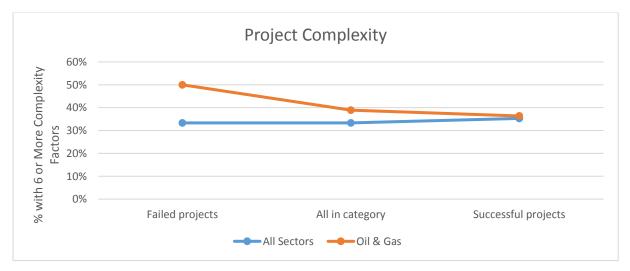
It is known from other sources that complex projects tend to be more difficult to manage. The survey selected a basket of 10 factors that would indicate complexity and asked respondents to rate their project against these. The factors were:

- Many interdependent objectives and success factors
- Many stakeholders/conflicting stakeholder requirements
- Diverse cultural context
- Large degree of new technology
- Many and complex interfaces
- Dynamic project structure and resources
- Complex or diverse funding arrangements
- High risks and/or few options to address
- High level of PM effort (e.g. >20% of man hours)
- Highly complex reporting requirements

In analysing the results, a project that had 6 or more of these factors present was deemed to be complex. The results show that oil & gas projects tended to be more complex when compared to projects as a whole. Over all sectors less than a fifth (18%) of projects had 6 or more factors present, but nearly two fifths (39%) of oil & gas projects had 6 or more factors.

For the oil & gas sector, the successful projects were less complex than the failures, thus bearing out the received wisdom. However, those projects that met all of their targets¹ were not significantly more complex (where 50% had 6 or more factors) than those who failed to meet any of their targets (where 43% had 6 or more). This would tend to support the notion that complexity was not a strong indicator of project success.

Interestingly, if we look at responses across all sectors, the successful projects seem to be slightly more complex than the failures, but it is only a small difference, may be an artefact of the small sample size, and is worthy of further study.



¹ These were projects that achieved their stated cost, schedule, scope and quality objectives.



Importance of the Project to the Organisation

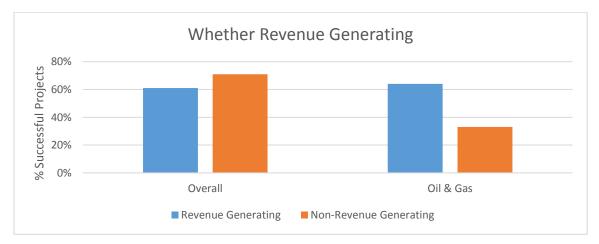
Intuitively, we would expect that the more important a project is, the greater the incentive to succeed and therefore the greater chance of success. The results of the survey bore this out. For oil & gas projects, 75% of business critical projects succeeded, as did 57% of important or very important ones. This means, however, that a quarter of business critical projects do not succeed, and an even greater proportion (over two fifths) of important or very important projects also fail.

Furthermore, oil & gas compares unfavourably with projects across all sectors, where 83% of critical projects succeed, as do 60% of important or very important ones.

Revenue Generation

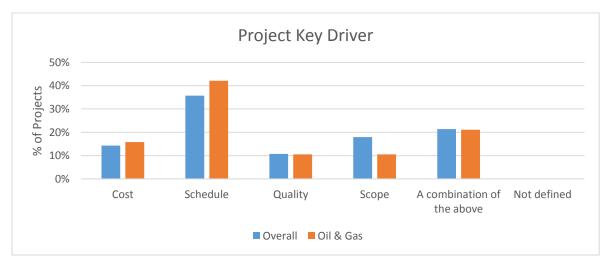
Overall in the survey, 68% of projects were intended to be revenue generating for their organisation, compared to 64% of oil & gas projects.

For oil & gas, revenue generating projects were more likely to succeed than those that were not. This trend was reversed when projects from all sectors were considered.



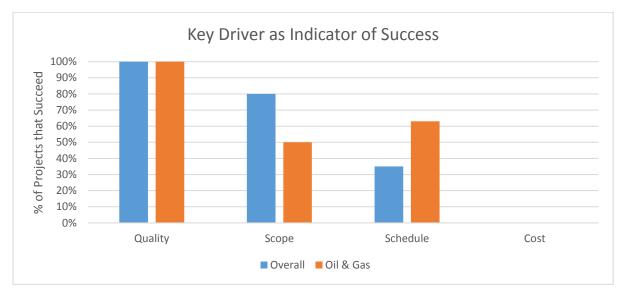
Key Project Driver

Projects are driven by many things, but usually, one driver dominates. Of all the projects surveyed, the biggest number was driven primarily by schedule, and this was slightly more so for oil & gas projects.

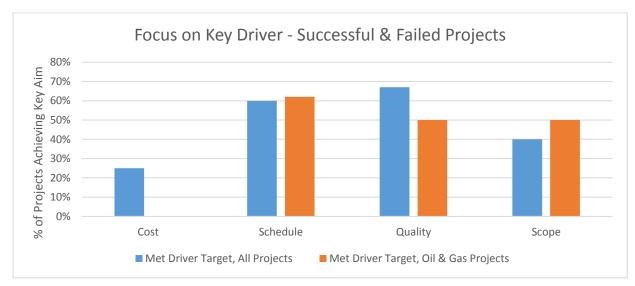




Those oil & gas projects that were driven mainly by quality were the most likely to succeed, followed by schedule- then scope-driven projects. Cost driven projects produced some interesting results: of the successes, none were cost driven. The trend for projects across all sectors was similar, but with some differences in the precedence.



Looking at whether projects that are driven by a given factor actually achieve success in that area, we find mixed success in satisfying that key driver. In oil & gas, schedule-driven projects are most likely to achieve their key aim, followed by scope & quality driven projects, with cost driven projects never succeeding in their key area. For projects in all sectors, quality driven projects most often achieved their key aim, followed by schedule, scope and then cost.



Overall, we can conclude that:

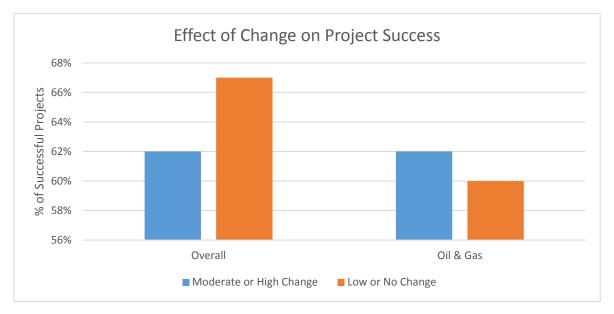
- Quality driven projects are the most likely to succeed
- Oil & gas projects are not significantly more likely to achieve their key aim than projects in all sectors
- Cost-driven projects, whatever their sector, are highly likely to fail, both overall and in their cost goals



Project Change

Experience and literature would seem to agree that the more change a project encounters, the more difficult it is to manage and therefore the less likely it is to succeed.

For projects across all sectors, the survey would seem to bear this out, as shown in the figure below. Indeed, every project that met all of their targets (cost, schedule, scope & quality) experienced only low or moderate change, whilst three quarters of those that met none of their targets experienced a high degree of change.



However, this trend is reversed for oil & gas projects. Here, slightly more successful projects saw moderate or high change than low change or none. Although not a large difference, it may indicate that this sector does better in managing change.

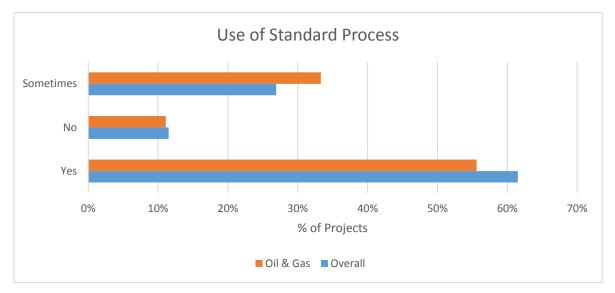


Project Environment & History

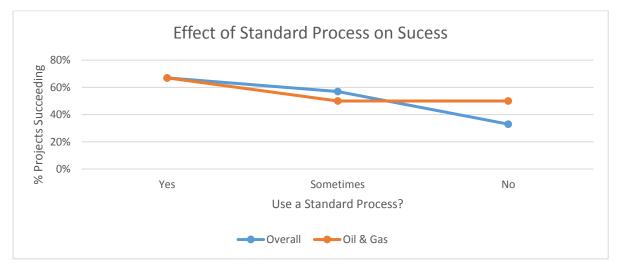
It is reasonable to assume that a project's success is influenced by the environment in which it is prosecuted. The survey tried to find out whether organisations offered an environment that might be conducive to project success, whether that actually worked, and if so, what factors dominated.

Whether a Standard Project Method or Process is Used

For oil & gas projects, a little more than half were in organisations that use one always, and a third sometimes. This is similar to the data for projects across all sectors, where the proportions varied slightly.



Use of a standard project management method or process within an organisation does seem to influence project outcomes. For oil & gas, projects in organisations that always use a standard process are more likely to succeed than those who sometimes do. The trend is more marked for projects over all sectors, where the proportion also falls for organisations that do not use one at all.

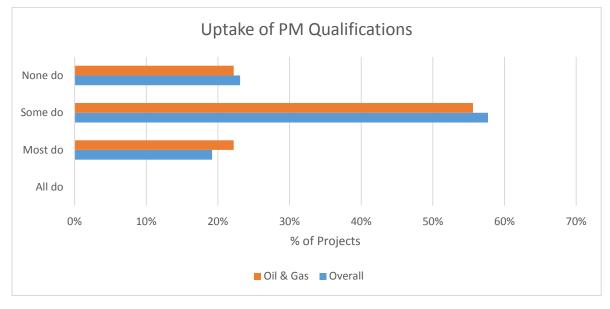


Interestingly, a significant minority of organisations still do not work to a standard method. The proportion is almost the same in oil & gas as across all sectors.



Whether Project Personnel Hold PM Qualifications

For oil & gas projects, a total of 78% of projects had some or most personnel holding PM qualifications.

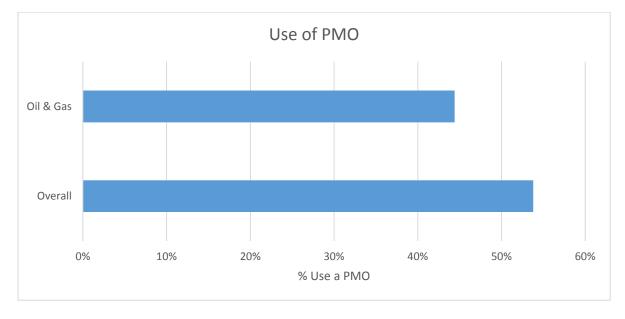


However, holding them does not seem greatly to influence project outcomes. The rate of uptake of qualifications between of successful and failed projects differed by only 6%. These numbers are similar to those for projects across all sectors, where 77% of projects had personnel hold PM qualifications and the rate of uptake amongst successful and failed projects was exactly the same.

Over a fifth of respondents (irrespective of sector) reported that none of their project personnel hold PM qualifications, and this is a cause for concern.

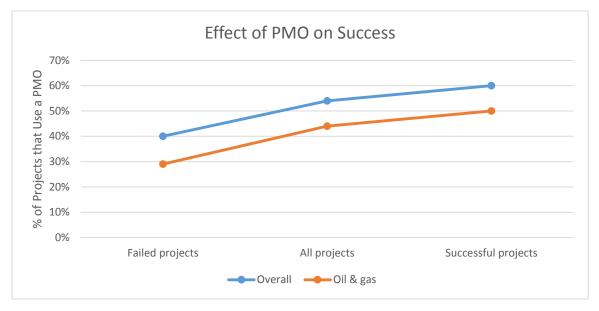
Use of Project Management Office (PMO)

Projects within the oil & gas sector are slightly less likely to use a PMO than their counterparts across all sectors.



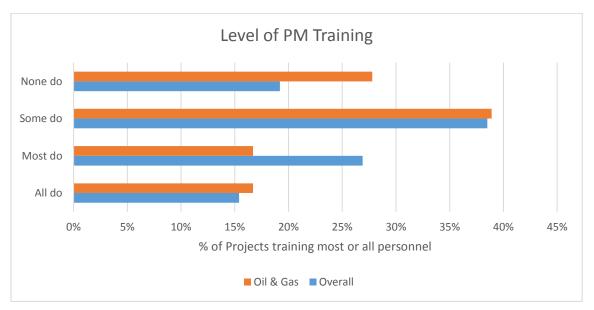


Use of a PMO would seem to increase the likelihood of project success. For oil & gas projects, and also projects across all sectors, the use of a PMO is greater in successful projects and less in failed ones.



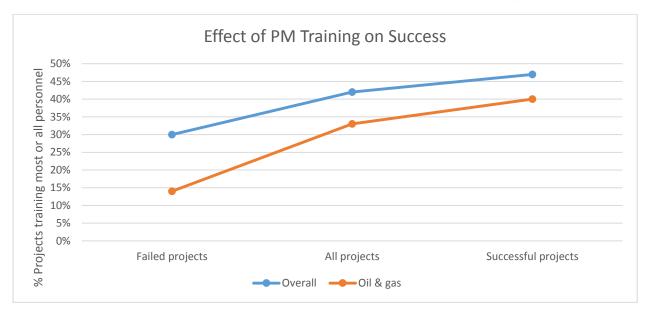
Specific PM Training for Personnel

For oil & gas projects, a third of respondents indicated that all or most of their personnel undergo specific PM training. This is slightly lower than for project across all sectors.



There would seem to be a positive benefit for projects where PM-specific training is given. The proportion of those who train most or all of their personnel is higher for the successful projects and lower for failed projects. This trend is also reflected in the data for projects from all sectors, albeit that the proportions of those who train some, most or all personnel are different.

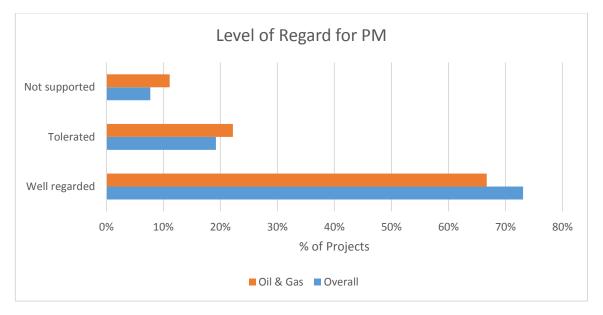




Of concern is that for the oil & gas sector, over a quarter of projects do not train any of their personnel in this area, and this is a larger proportion than that for all sectors (at 19%).

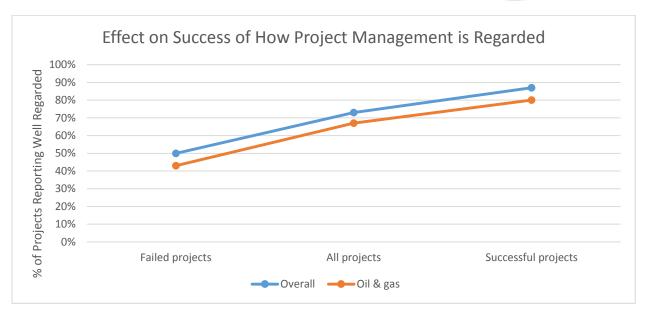
How Project Management is Regarded Within an Organisation

For oil & gas projects, two thirds of respondents reported that project management was well regarded.



For this sector, it would seem that the better an organisation regards project management, the better its projects tend to fare. The number of projects reporting high esteem was higher amongst the successful projects, whilst for failed projects it was lower.



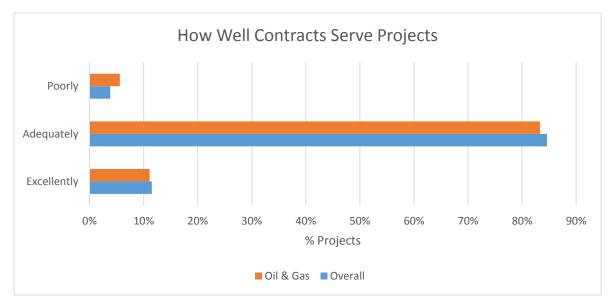


Similar data was found for projects in all sectors, both in the proportion of organisations that held PM in high esteem and also the effect on project success.

How Well Contracts Serve Projects

For the oil & gas sector 95% of respondents reported that their organisation was served excellently or adequately by their contracts. However, this had only a minor influence on project outcomes, since although 100% of successful projects were adequately or excellently served, so were a high proportion (86%) of failed ones.

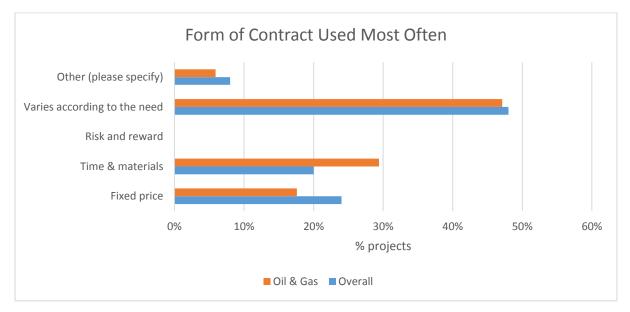
It was a similar story over all sectors, where the difference in satisfaction reported by successful and failed projects was even smaller, at 10%.



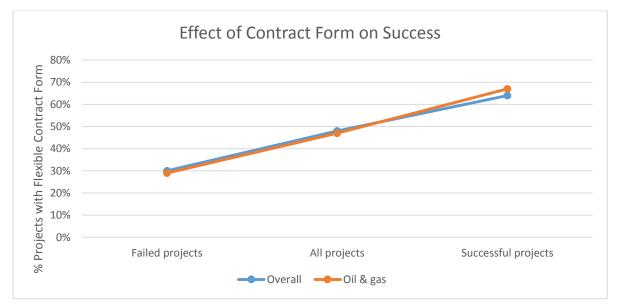


Form of Contract Used

In the oil & gas sector, for just under half of respondents, the form of contract used with suppliers most often in their organisation varied according to need and was the form that was used in the highest proportion of successful projects. This is similar for projects across all sectors.



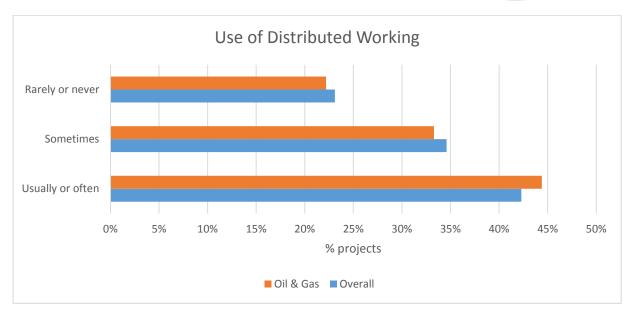
This proportion rises for successful projects and falls for failed projects, and this profile applies to projects in all sectors. This flexibility seems to be a positive influence on project success and may indicate a more mature organisation, or perhaps one that supports projects better.



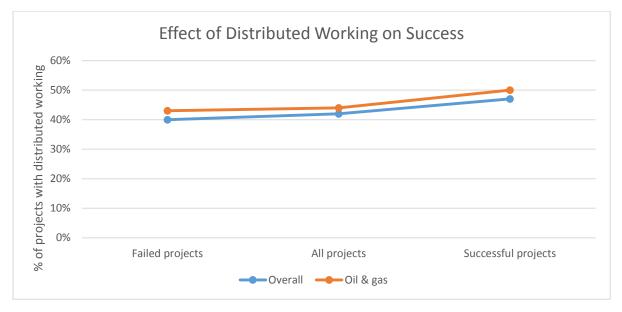
Use of Distributed Working

The survey sought to assess whether distributed working (i.e. project teams that are separated by distance and time) had an influence on project outcomes. For the oil & gas sector, just under half of projects reported that they usually or often work this way, a similar proportion to projects across all sectors.





Intuitively, it should be harder to manage distributed teams. However, the proportion of successful projects working in this way is actually slightly greater than that for all projects and is slightly less for failed ones. Again, this is true irrespective of sector.

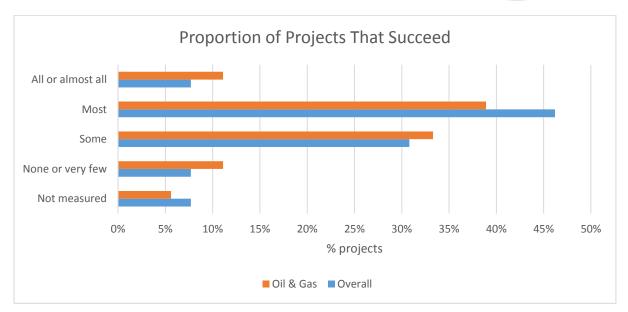


Although not a strong trend, it is in fact in the opposite direction to that which we would expect and would seem to indicate that (if anything) this method of working actually makes little difference.

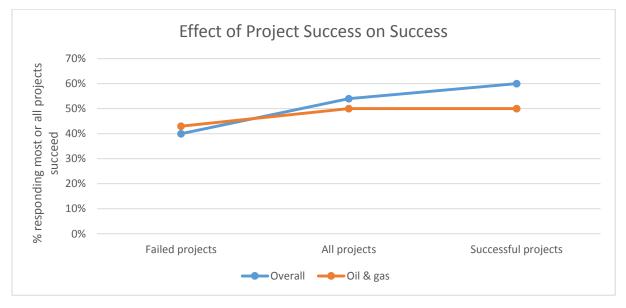
Proportion of Projects that Succeed within an Organisation

For the oil & gas sector, half of respondents said that most or all of the projects in their organisation succeed. This is slightly less than for projects over all sectors.





In oil & gas, this does not rise for those who reported on a successful project but does fall for those reporting on a failed one. The trend is more marked for projects over all sectors, where the proportion rises for project successes and falls for failures.



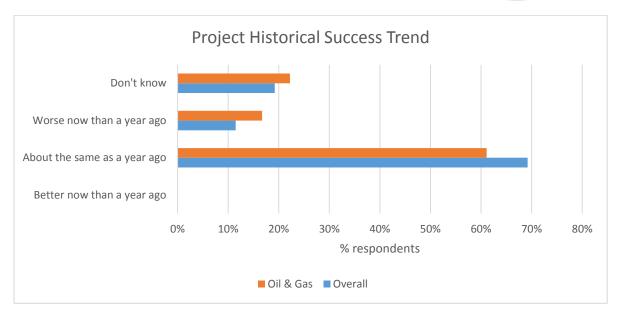
This would suggest that those organisations which do well at projects have a habit of doing so. As can be seen from the first graph, a small minority do not measure this.

Historical Success Trend within an Organisation.

The survey sought to discern whether or not project performance has generally improved over the past year. The results show that performance is broadly the same now as a year ago, with a small proportion of respondents reporting a deterioration.

Interestingly, around a fifth of organisations don't know. An additional question, asking for further comment, yielded no clear themes.







Reasons behind Success or Failure

Respondents were given the opportunity to comment on various aspects of project success and failure. In general, few consistent themes emerged, and a summary of the responses is given in this section.

Comments on Why a Given Project Failed or Succeeded

A fifth of respondents commented on scope, goals or objectives. Where mentioned, the view seemed to be that good definition was a significant contributor to success, and poor definition to failure. For oil and gas projects, a third of respondents mentioned process issues: that poor process had contributed to failure and good process to success.

Comments on Barriers to Project Success

Here, half of responses mentioned "soft" factors (e.g. poor leadership, trust or motivation) as barriers. This was also mentioned by a lower proportion of responders from the oil & gas industry. In this sector, a quarter also mentioned process issues (e.g. poor planning methodology or scoping).

Comments on Enablers of Project Success

From those respondents who reported project success, competence and process topics appeared frequently as enablers (e.g. right people in right jobs or good risk management process). For oil & gas projects, a fifth mentioned competence or people issues (e.g. PM competence) and a fifth mentioned soft issues (e.g. personal relationships, communication, teamwork) as things that enabled success.

Additional Comments

A final question asked for additional comments on the subject of project success. Not many people responded to this, but half of those who did referred to "soft" factors (e.g. communication, collaboration, trust) as important in achieving success.