Recent Trends in Project Controls:

A Survey from LogiKal Projects

2016

LogiKalProjects

About the Recent Trends in Project Controls Survey Report

As a consultancy dedicated to supporting clients with the successful delivery of projects through the use of project controls, we have always held the belief that organisations which operate to high standards in this area are more likely to be successful in their project delivery. However, there is limited research evidence to back up this assertion and we decided to conduct our own survey to solicit views from those working in projects. Our objective was to seek to understand how effectively project control disciplines are considered to be working and the extent to which their effectiveness appears to co-relate with project success. A survey questionnaire was sent out to our contact groups and at the time of publishing, we have received 334 responses. In publishing this data, we fully recognise that the information is biased towards the sectors and geographical areas in which we operate and does not necessarily represent a universally accurate picture. Nevertheless, we believe that the consistency of findings enables us to be confident that the findings are reliable.

It should also be recognised that this is a survey of opinion and not necessarily fact. Whilst we would hope that there is a strong relationship between the two, there will inevitably be some subjectivity in the responses. That said, we are confident that the response group provides a clear collective view of many people currently or recently engaged in the delivery of projects.

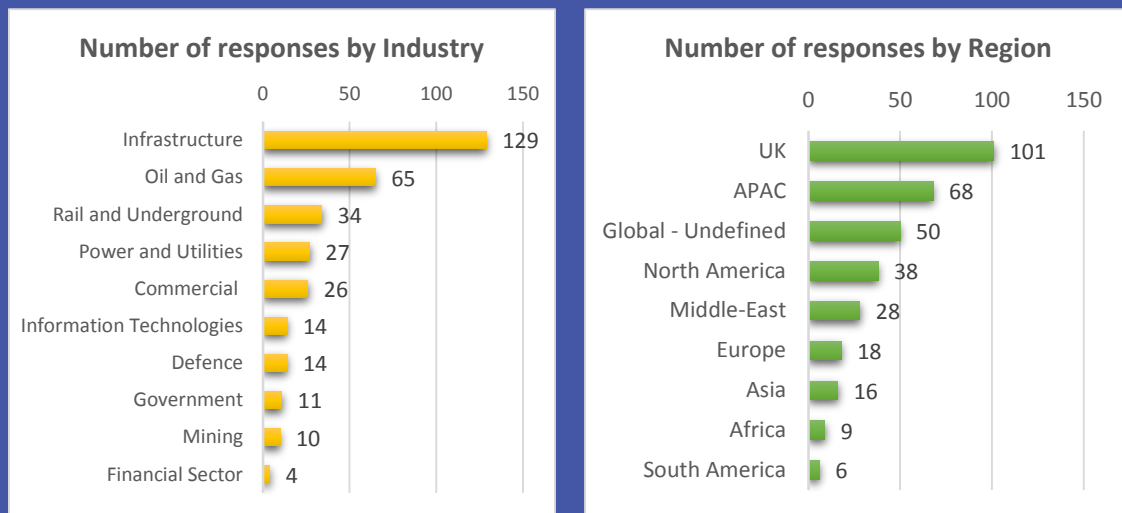The following tables give a geographical and industry split of responses:

Figure 1 & 2: Number of Responses – Region and Industry

In carrying out analysis of the data, categories with low response numbers have been grouped to provide comparable sample size.

- **In order to establish current status and recent trends in project controls LogiKal Projects have conducted a survey**
- **334 responses have been received at the time of publishing. The data has been analysed and indicates:**
  - o **A high degree of importance being attached to project controls**
  - o **Broadly satisfactory ratings but with an acknowledged need to improve in some areas**
  - o **Strong correlation between high standards in project controls and positive project outcomes**
  - o **Weak integration in processes and systems in the majority of cases**
  - o **Many key processes continuing to be operated through Excel spreadsheets**
  - o **A general need to enhance practitioner skills**
  - o **Low use of analytic tools and a perceived requirement for better data to be demanded from the top of organisations**
  - o **Little integration currently between BIM processes and project controls**
- **Organisations and managers may wish to consider this information in formulating their plans for developing capabilities to enhance project outcomes**

How important are project controls?

At the front end of the survey we were keen to gain an understanding of how important the topic area is in the management systems of the organisations which respondents are working in – so we asked the following question.

How does your organisation currently rate the importance of Project Controls in the management of projects and portfolios?

This question was framed to get a view on how the organisation as a whole views the importance of project controls, rather than the individual responding to the survey
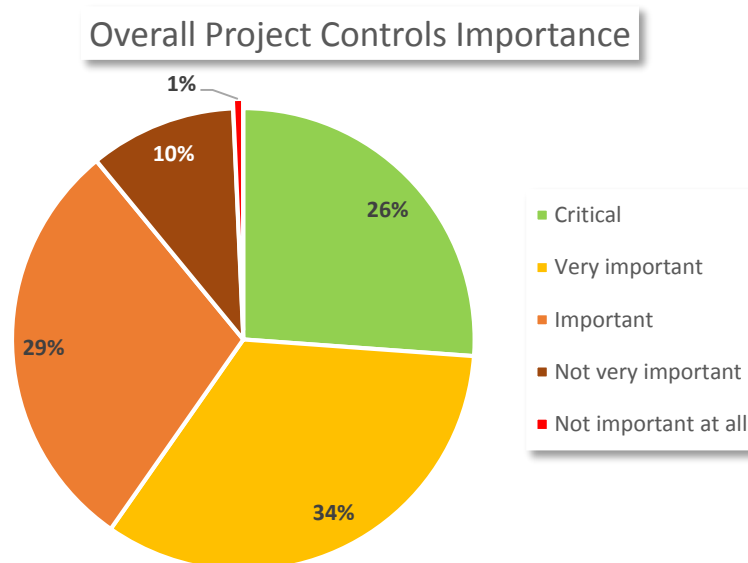
Results are displayed in the following pie chart:

Figure 3- Overall perception of Project controls importance

As can be seen, the practice is considered to be **important, very important or critical** in the vast majority of cases (89%), with only 1% considering it to be not important at all.

How effectively are they operated?

Having established their importance, the next aspect of the survey was to get a view from respondents on how effectively, as a whole, project controls are operated in their organisations.

We posed the following survey question:

How effective are Project Controls in delivering strong and predictable outcomes in your organisation's projects?
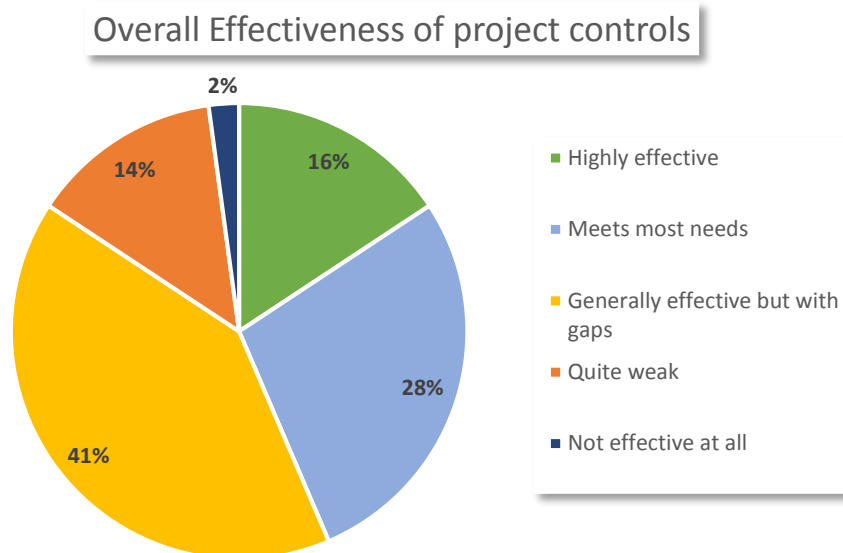
The results for this are as follows:

Figure 4 - Overall perception of effectiveness of Project controls

Whilst only 16% of respondents believe that their organisation has controls which are highly effective, 85% regard the systems as at least *generally effective.* Of this group though nearly half (41%) recognise gaps in the control systems which should be addressed.

As well as getting a current status on effectiveness, we were keen to understand whether the situation is improving or deteriorating and by a little or a large amount.

Responses to this were strongly positive, with 61% stating that effectiveness has improved slightly or significantly over the last 2 years. This compares with only 7% who reported any level of deterioration.

This suggests strongly to us that project controls are regarded as an important set of management disciplines which have been developing in effectiveness over recent times.

We analysed the data by geographical zone and by industry to see if there are any notable differences.

We found no clear differences based on geography. There is perhaps a slightly weaker position on effectiveness outside UK, APAC and North America but this is not highly marked.
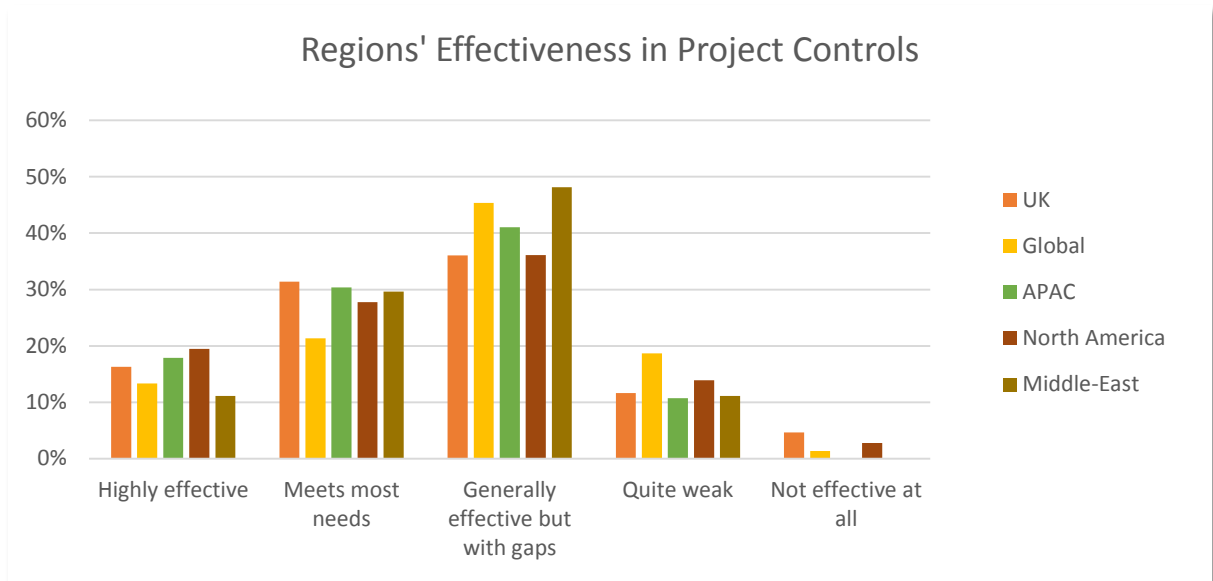
"Project controls are perceived as less effective in Rail and Underground industry"

We analysed effectiveness level by industry group. As highlighted in the graph below, we can see that Infrastructure and oil and gas generally comply with the overall trends, but things slightly differ for rail and underground, which displays a generally weaker perception of project controls effectiveness.
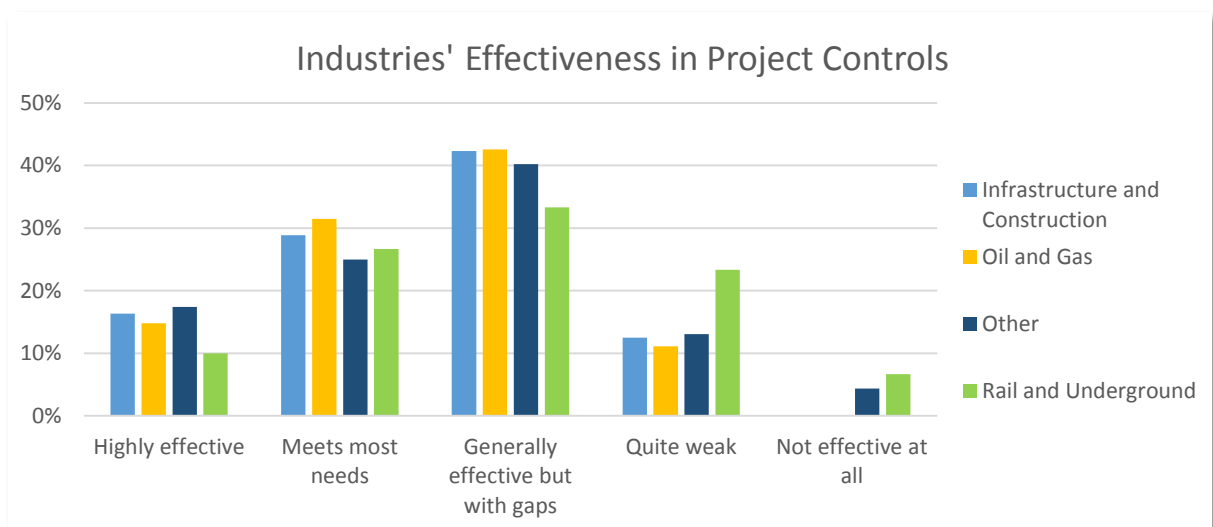
"Less effective project controls practices are associated with underperforming projects"

One of the primary purposes of the survey is to establish whether there is a perceived relationship between the effectiveness of project controls and the outcome of projects.

In order to seek to establish this, we asked respondents about the level of success which had been achieved on recent projects

When considering the 'successfulness' of projects, we refer to the respondents who reported their project controls outcomes (time, cost, quality) to have achieved all or the majority of the project objectives.

The data indicates:

- A combined 57% considered their projects to have **underperformed** or **failed to meet targets**
- The remaining 43% regarded their **projects as successful**. This group becomes key for the analysis of the survey, and will serve as a sample of comparison to highlight elements of success in project controls.
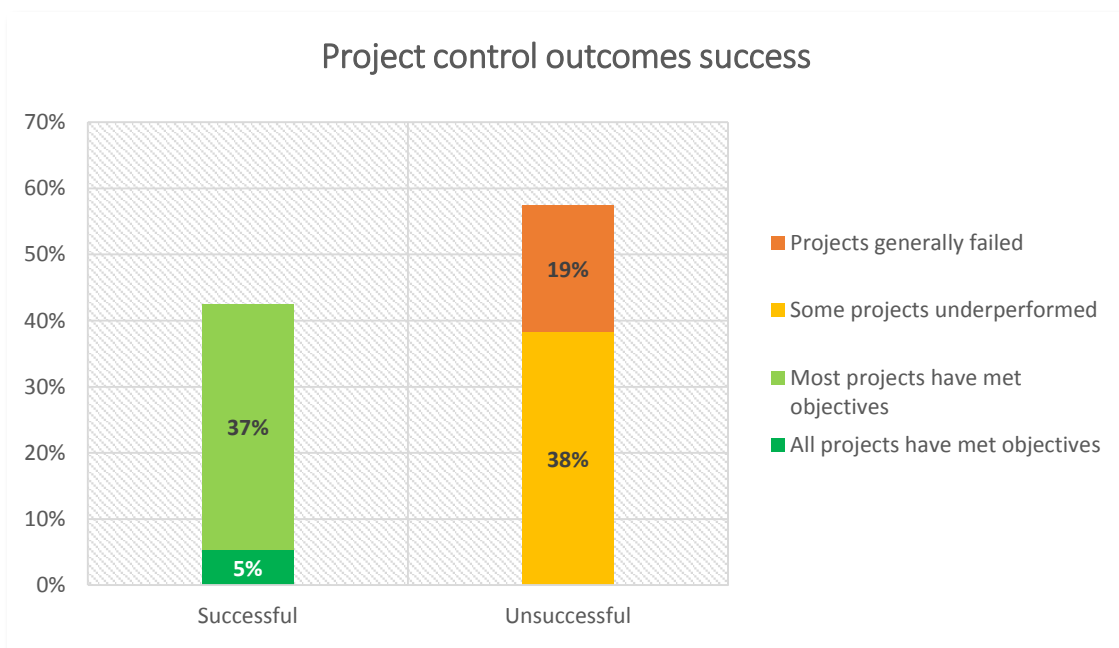

Figure 7 - Overall successfulness of project controls

Perception of project controls importance is not clearly related to whether projects are successful or not, as can be seen from the graph below:
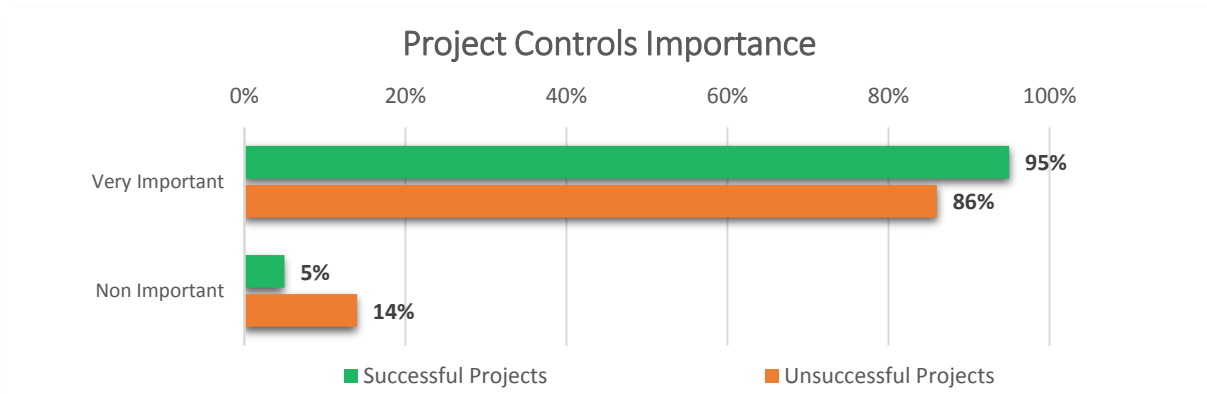

Figure 8 - Project Controls importance compared by successful and unsuccessful projects

However, things are different when perceived project outcomes are compared with the effectiveness of project controls.

The following graph shows project outcomes for organisations compared with respondents' perceived effectiveness of project controls

Figure 9 - Impact of Project control effectiveness on Project success

This graph demonstrates a very clear relationship. In the group reporting effective controls, 59% also reported that all or most project objectives were met. This compares with only 11% for respondents reporting ineffective controls. This appears to provide strong evidence of a relationship. Of course, there are likely to be many factors in play in determining whether projects are successful, other than project controls. We cannot conclude that investing in controls will necessarily lead to project success. However, this is sufficient evidence to suggest that organisations who are dependent on successful outcomes for projects would be wise to review their capability in this area.

We asked respondents to rank factors which, in their view, were likely to have the most significant influence in improving the overall effectiveness of controls.

These are listed below according to the number of respondents who chose them. Increased senior management commitment and better integration of tools and processes are seen as the most important factors. Leadership improvements, training and improved tools and processes are also identified as important.
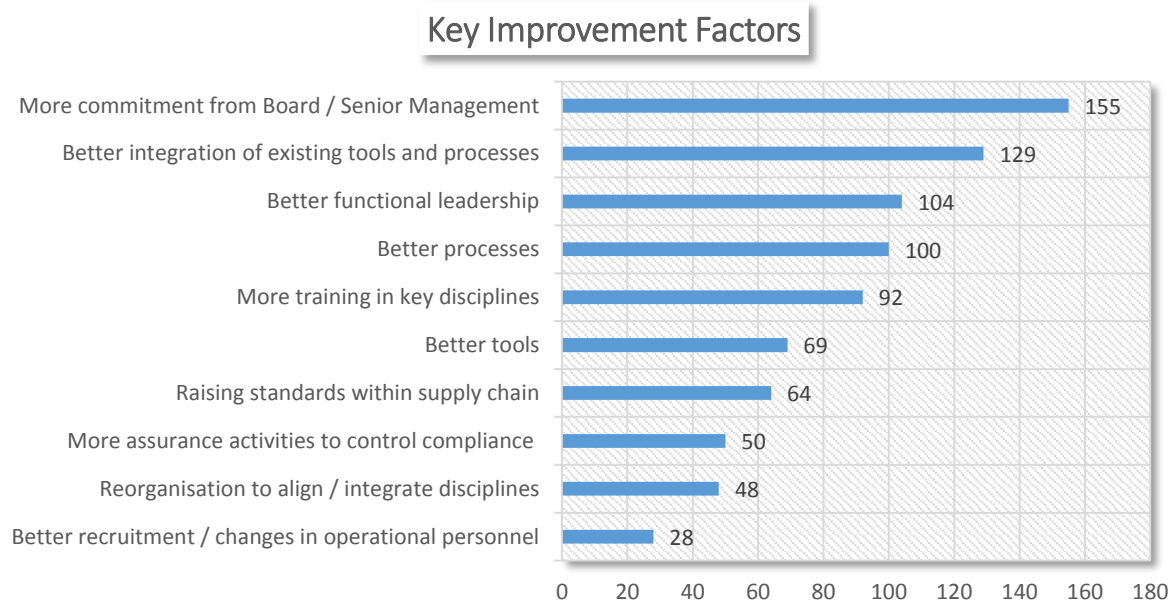
Key Improvement Factors

Factor	Value
More commitment from Board / Senior Management	155
Better integration of existing tools and processes	129
Better functional leadership	104
Better processes	100
More training in key disciplines	92
Better tools	69
Raising standards within supply chain	64
More assurance activities to control compliance	50
Reorganisation to align / integrate disciplines	48
Better recruitment / changes in operational personnel	28

Figure 10 - Respondents' rating of key factors for improvement

Apart from looking at the overall position on controls, we also used the survey to solicit views on the different elements which support solution effectiveness. In this section, we look specifically at the people aspects of the project controls solution.

Skills

Clearly, good controls practice is dependent on having a team of practitioners with the right skills and capabilities. We asked respondents to give us their views on the current skill levels in their organisations.
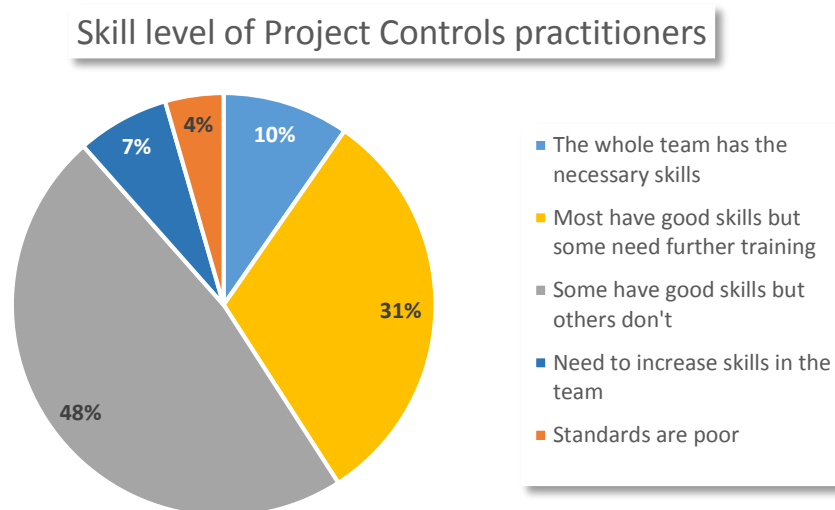
This is reported below:

Figure 11 - Perceived level of project control practitioners' skills

This result suggests something of a skills gap, with only 10% reporting that they have all of the necessary skills available. A further 31% report generally good skills, leaving 59% reporting mixed or weak skill levels. This is consistent with project controls being an emerging profession, currently developing inside many organisations.

The results are consistent with many respondents (92) choosing training and skills development as being a key factor in developing capability in their organisations.

As with project controls effectiveness as a whole, we used the data set to compare reported project outcomes with skill levels and this comparison can be seen in the following graph:
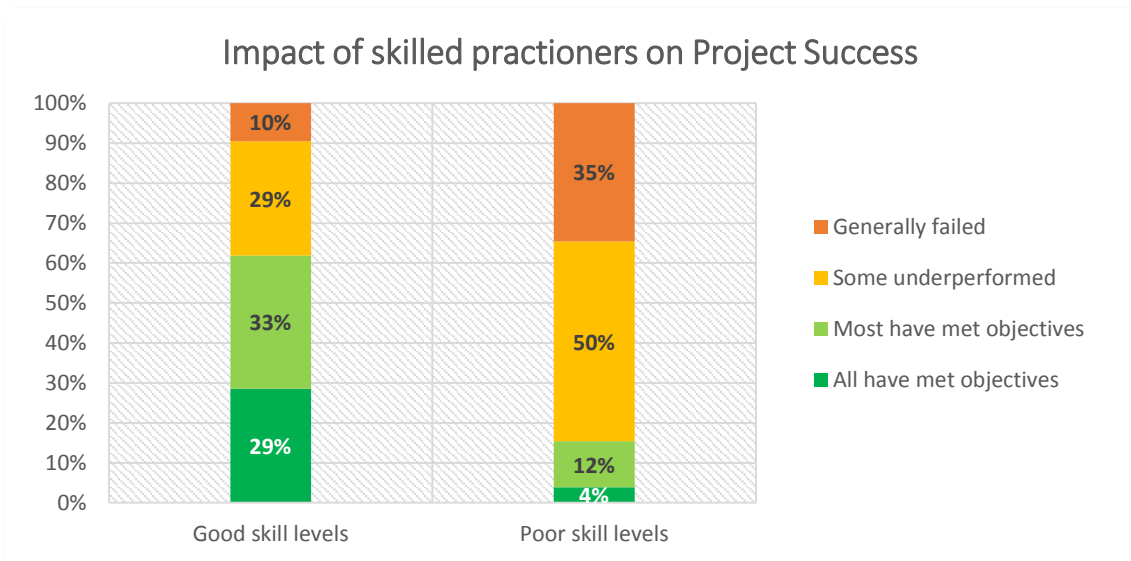
Figure 12 - Overall impact of skill levels measured against project success

Unsurprisingly, this identifies a similar relationship to that with overall controls effectiveness – 62% of instances with good skill levels reporting positive outcomes compared with only 16% for poor skill levels.

Although there is clearly an issue with the absolute levels of skills demonstrated, we were keen to understand how things are changing. We asked respondents how skill levels in their organisations have changed over the last 2 years:
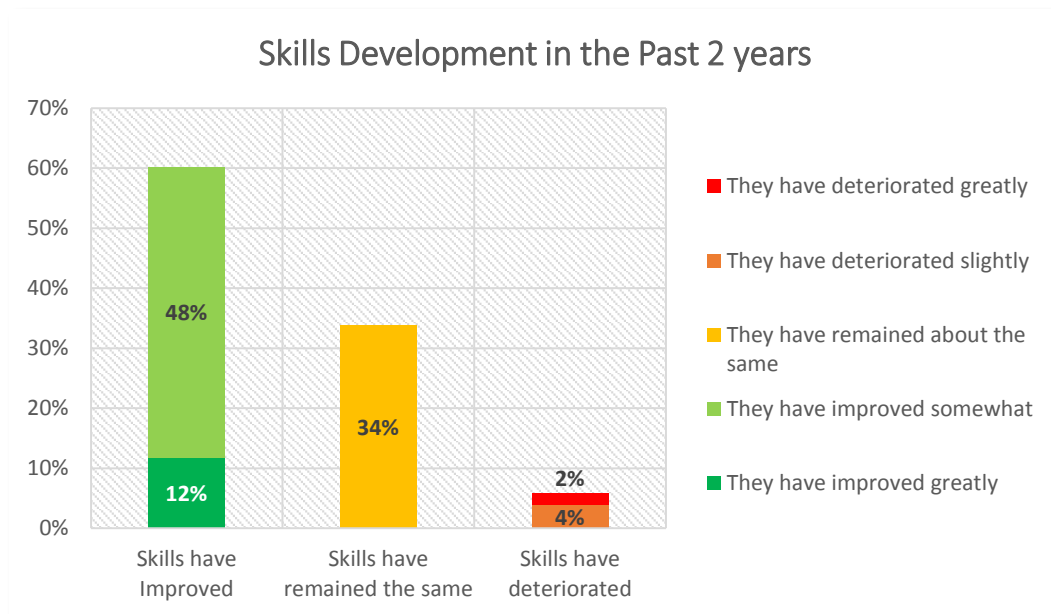

Figure 13 - Perceived improvement in practitioners' skills over the past two years

As can be seen, 60% are reporting improvement compared with only 6% indicating deterioration. However, for the group reporting improvements only 20% are indicating high levels of improvements – suggesting that skills are building slowly.

Is the controls information used?

We are aware that there is a wide variation in the extent to which controls information is used in the management of projects. Sometimes the information is just used for status updates, sometimes it is only provided to meet contractual requirements.

We were keen to understand how many respondents believe that their organisations make good use of controls information in the management of projects, regardless of the quality of that information. The survey asked respondents to categorise information use.

Surprisingly, despite the consensus on the importance of project controls, only 27% of respondents thought that **good use** was made of controls information. This suggests that management systems are weaker than they might be through the failure to review and act on performance information.

As indicated by the graph below though, successful projects are 2.5 times as likely to be making good use of the controls information as those considered to be unsuccessful, but still only 41% of cases appear to make good use of the information.
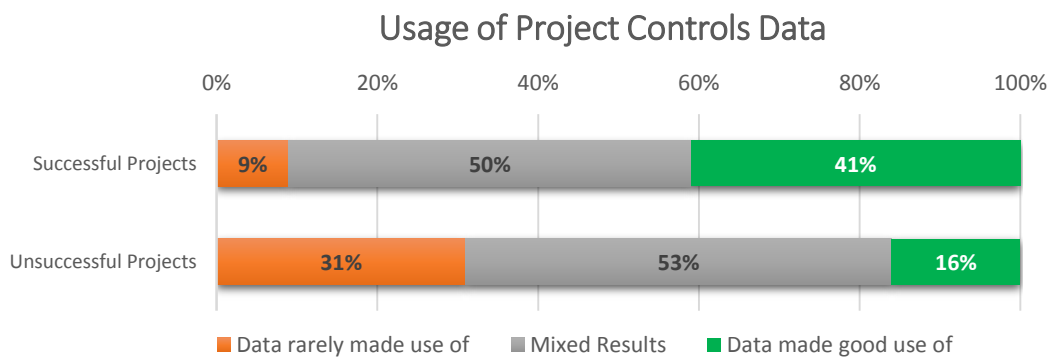
Usage of Project Controls Data

Successful Projects	9% / 50%	41%
Unsuccessful Projects	31% / 53%	16%

- Data rarely made use of ■ Mixed Results ■ Data made good use of

Figure 14 - Comparison of data usage between successful and unsuccessful projects

This suggests to us that increasing the use of controls information may provide a major opportunity for performance enhancement.

Further analysis makes it clear though that practitioner skill levels are closely associated with the likelihood of the data being used.
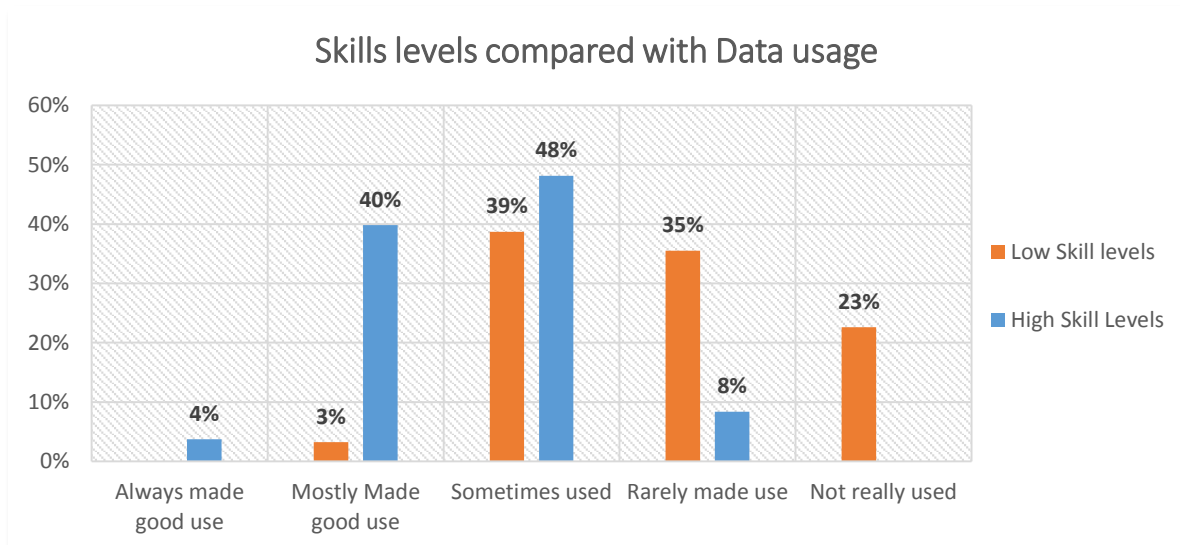
The following graph shows this relationship:

Skills levels compared with Data usage

- Always made good use: 4% (High Skill Levels)
- Mostly Made good use: 3% (Low Skill levels), 40% (High Skill Levels)
- Sometimes used: 39% (Low Skill levels), 48% (High Skill Levels)
- Rarely made use: 35% (Low Skill levels), 8% (High Skill Levels)
- Not really used: 23% (Low Skill levels)

Legend: Low Skill levels, High Skill Levels

Figure 15 - Impact of quality data on information usage

It is not clear from the data whether it is practitioner skills or propensity of managers to utilise the information which is driving this relationship. Our belief is that it is likely to be the latter, since managers who insist on good data for the management of their projects will take steps to drive up standards where this is necessary.

Process quality

Respondents were asked to give a **quality rating** out of ten for each of nine key project control processes.

The graph below shows average score for each process segregated between respondents reporting successful and unsuccessful project outcomes.

From the overall results, the lowest rated process was Risk Management with an average of 5.2 out of 10, Schedule management was the highest with 6.6.

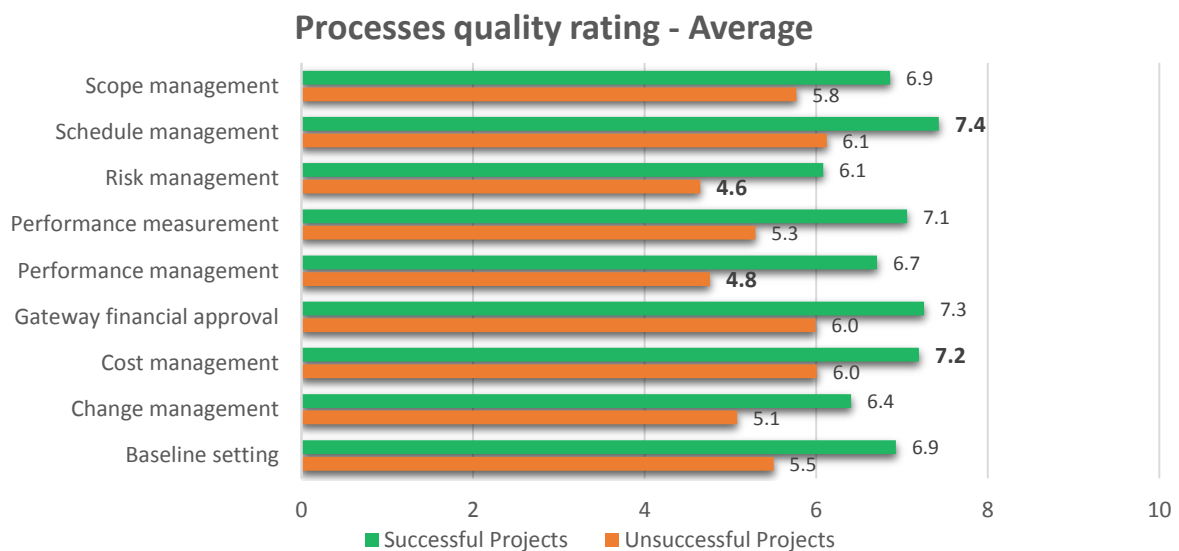Overall ratings averaged 6.8 for projects meeting most objectives and 5.4 for ones failing to do so.

Processes quality rating - Average

Figure 16 - Processes quality rating compared by successfulness of projects

The relative differences in the process ratings are interesting and are explored further in this section.

Process integration

The survey asked respondents to give an opinion on whether processes, as identified above, are proportionate to the needs of the organisation and well integrated with each other for efficiency and consistency. The responses received highlight a large majority believing that their processes are not 'match fit' and need improvement. Only 7% of respondents consider their processes to be both well drafted and well integrated.

The results again show a significant leaning towards higher process quality for successful projects, as can be seen in the following graph:
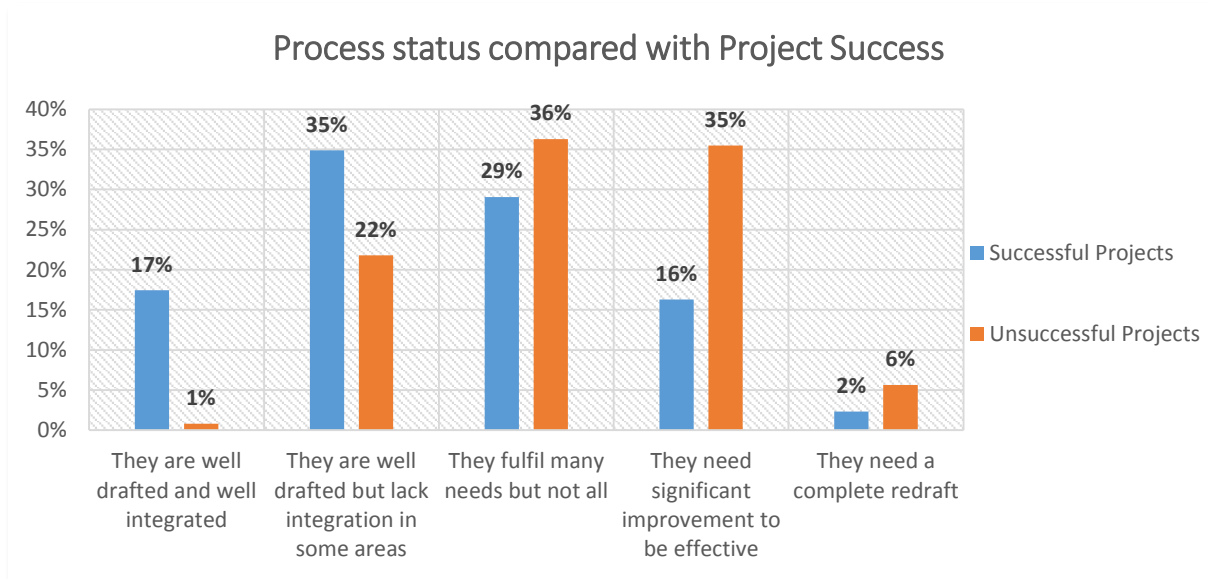

Figure 17 - Correlation between project success and good quality and well integrated processes

"Stronger process integration correlates with improved project controls effectiveness"

The survey asked a specific question about the level of integration between different controls processes. Responses were calibrated with successful reported outcomes as follows:
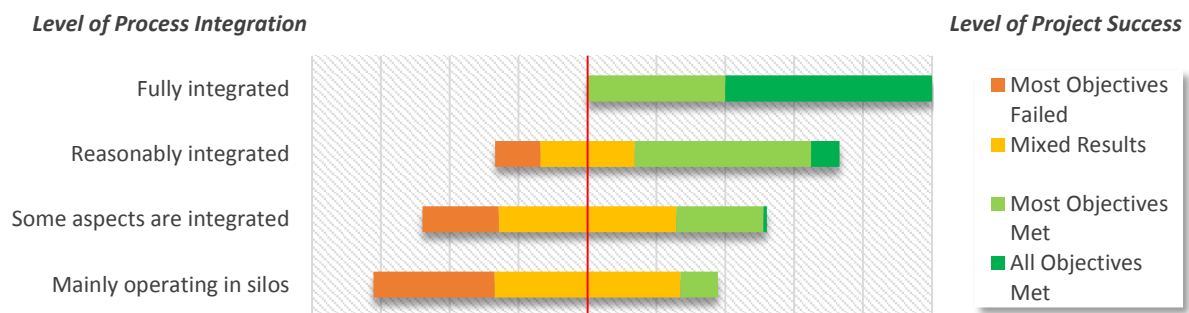

Figure 18 - Impact of process Integration on Project success

At first glance, the data appears to indicate that organisations with fully integrated processes have a high instance of project success. However, as only 2% of respondents reported that processes are fully integrated, we would not consider this to be a reliable conclusion.

This low level of process integration suggests that this remains a key area to be tackled in most organisations, including those which are currently performing well.
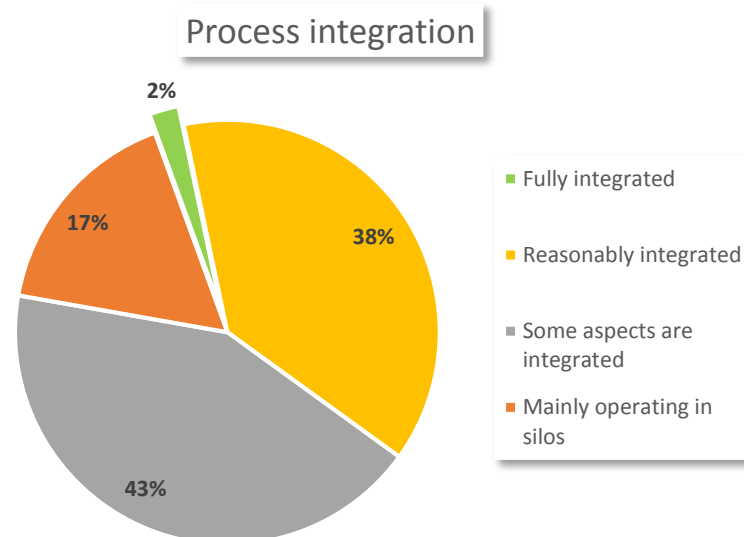
Process integration

- Fully integrated
- Reasonably integrated
- Some aspects are integrated
- Mainly operating in silos

Figure 19 - Results for overall process integration

"Rail and underground fails to meet average levels of process effectiveness"

We carried out an analysis of these results by geographical area and by industry. Whilst the geographical results were very consistent, we noted some differences in the industry position as shown in the following graph:
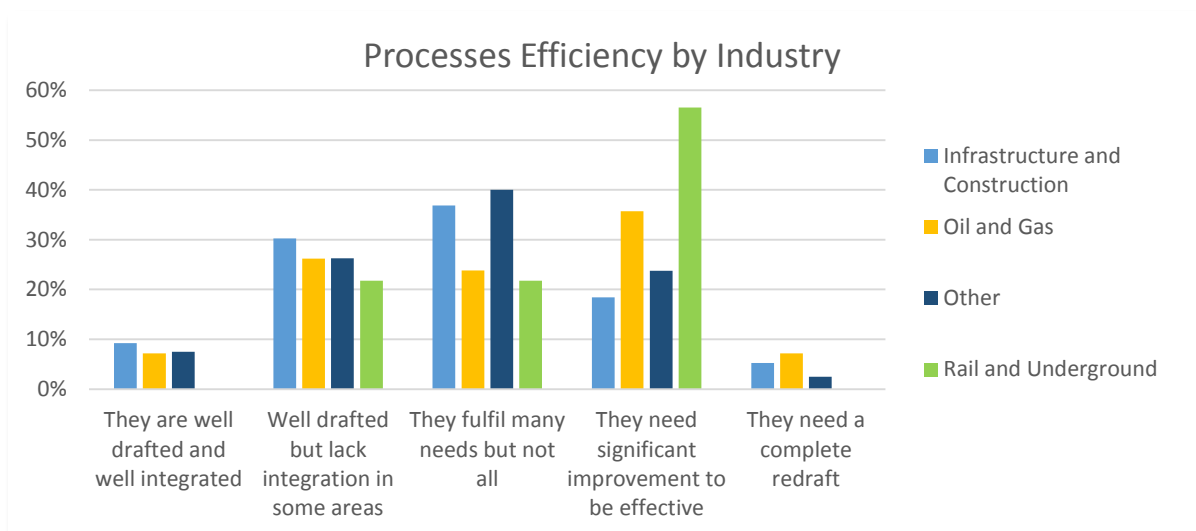

Figure 20 - Processes efficiency levels as reported by different industries

Again, Rail and Underground results show a particular weakness. No respondents rated current processes in the top category and a massive 57% identified the need for significant improvement. However, we also ascertained that the relationship between process quality and project success remains as strong in this sector as in any other industry.

"Failure to control risk and manage performance may be significant reasons why many projects fail to meet objectives"

We noted at the start of this section that there are significant differences in process quality ratings between responses indicating strong projects outcome and those which didn't. Further analysis shows that the differences are particularly marked for risk management and performance management processes. These were the lowest rated processes for unsuccessful projects, with scores of 4.6 and 4.8 respectively.

It is probably intuitive to suggest that projects which control their risks and manage performance well are likely to have better outcomes, and this is corroborated by the survey results. It suggests to us that organisations which are not achieving strong project outcomes will benefit from putting particular focus into improving in these areas.

On the more positive side, it is interesting to note that respondents reporting successful project outcomes also reported strong processes for schedule management, performance measurement, gateway financial approval and cost management, all of which achieved an average score above seven in this category of respondents.

To explore this concept further we took subsets of the response data, selecting only responses which rated individual processes highly, at eight or more out of ten. For each subset of the data, the following charts show the relationship with reporting of successful outcomes:
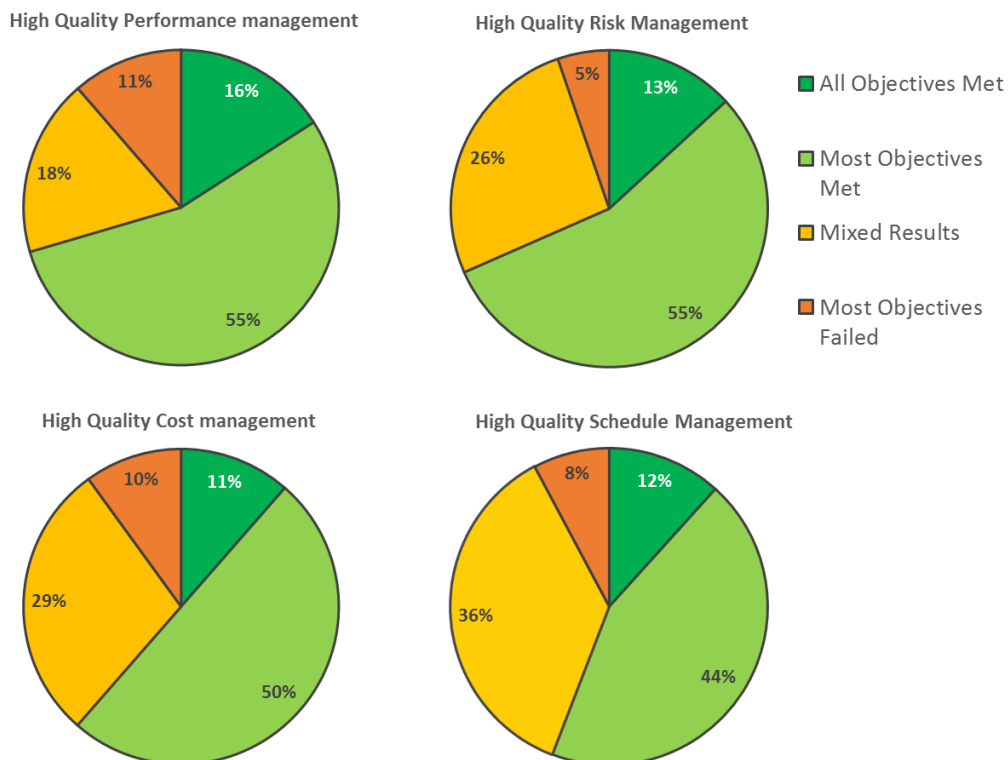

Figure 21 - Comparison of different high quality processes and their correlation with project success

The correlation is highest for performance management, with 71% of these cases reporting successful outcomes, closely followed by risk management with 68% success rate. Scores for cost management and schedule management are 61% and 66% respectively. Remembering

that these scores are to be compared with a reported success rate of 43% in the total survey data, the association between the quality of these processes and project outcomes is clearly significant.

Process compliance

Having well-structured and integrated processes is one thing, ensuring they are consistently followed by all involved in the project is another.

Regardless of the current quality of processes, we were keen to get a view from respondents on the extent to which their process are followed. The results are shown below.
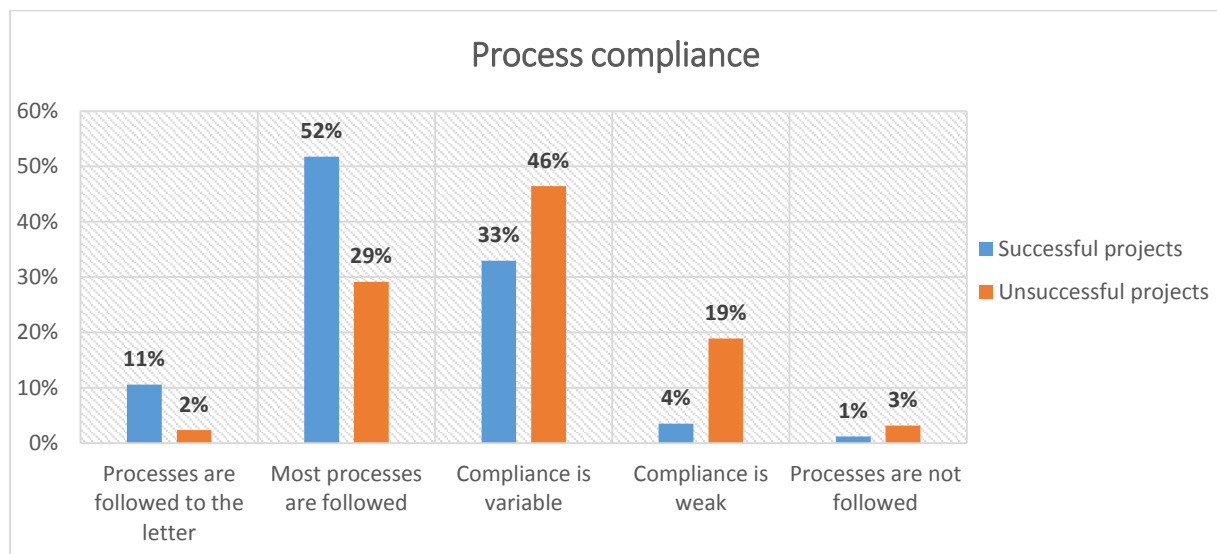
Again, there is a clear differential between the results for those reporting successful and unsuccessful projects – substantial compliance being reported in 63% of cases for the former, compared with less than half of that (31%) for the latter.

We then wanted to ascertain the extent to which organisations monitor process compliance through audits or process compliance reviews.

"Compliance reviews have a role to play in securing improvements in project controls practice"

The overall results were balanced, with 25% of respondents citing that their organisations carry out frequent reviews, 25% reporting that they do not conduct them at all, and 50% having some level of infrequent process.

Again, as we might have anticipated, there is a tendency towards better outcomes from those situations where reviews are carried out, as demonstrated in the following chart:
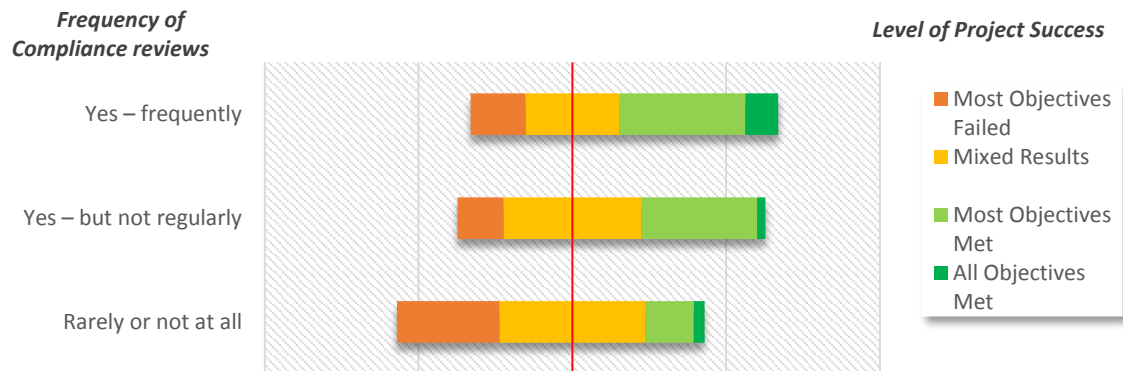

Figure 23 - Correlation between frequency of compliance reviews and project success

Whilst the association with project success is a little less marked than it is for process quality, it is still significant, which suggests to us that a compliance monitoring / management regime should form an essential part of the requirements for any organisation concerned to optimise outcomes.

SYSTEMS

Having looked at the people and process dimensions, the survey then focussed on the systems solution, with a view to understanding what type of tools are in use and how effectively integrated they are.

"Unlike schedule management, organisations seem to lack the use of sophisticated tools for Risk and Cost management"

Schedule

Respondents reported the largest use of database tools in the areas of schedule management, with Primavera P6 being identified as the key software by 77% of the respondents who named a specific tool.
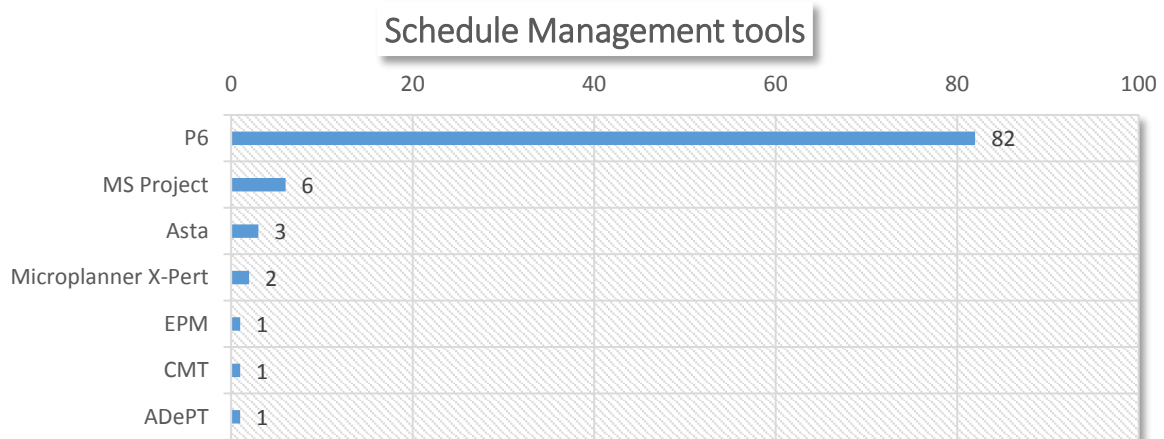

Figure 24 - Respondents' usage of schedule management tools

For those using CPM databases, there was a high instance of those databases being controlled and managed centrally.
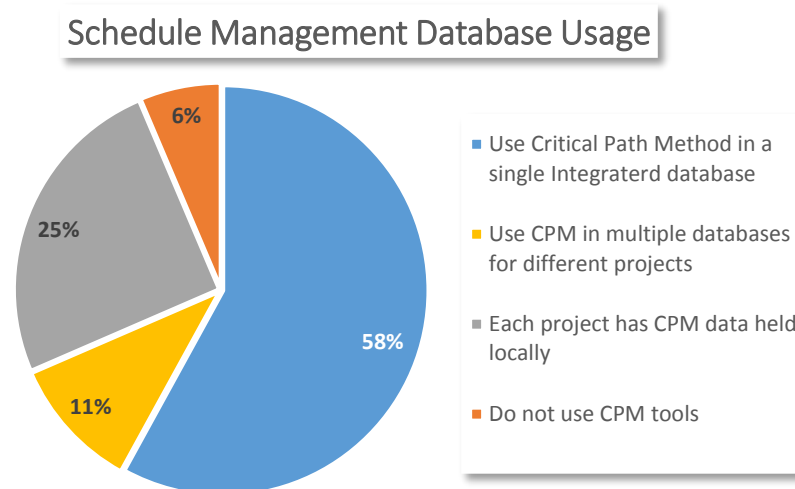

Figure 25 – Levels of CPM implementation

Risk

The same was not true though in the area of risk, where the use of Excel dominates for recording and managing risk. This can be seen in the following chart:

Figure 26 - Respondents' usage of risk management tools

Where purpose designed tools such as Primavera Risk and ARM are in use, most respondents reported the use of a single centrally managed database. Where Excel is used, this would appear to have much less central database control with respondents predominantly reporting the use of networks of spreadsheets.

Whilst spreadsheets can enable risks to be categorised and managed on a local basis, the lack of a centrally controlled database will limit overall visibility of risk in the organisation and the opportunity for overall analysis.

Cost

As with risk, Excel dominates in the responses to questions about tool choice for control of cost. This is surprising given the focus which many organisations have on the management of project costs and the number of tools which are actually available in the market place.

Even where other tools were cited, many of these are products associated with the management of the accounting aspects of cost rather than budgetary control, EVM, cost change and cost performance management.

It is likely that the complexity of managing budgets for large projects through spreadsheets is a significant limitation to the process quality for cost management.

Figure 27 - Respondents' usage of cost management tools

Integration

"The use of unsophisticated tools across the profession leads to less opportunities for system integration"

At the first level of integration, we were interested to understand from the survey how many respondents have organisations which integrate the individual tools over their projects or portfolios.

As could be expected from the conclusions drawn above, schedule management comes across as the most integrated system, with the majority, 57%, using a single integrated database. Cost and risk management, due to the lower usage of professional tools, show inferior system integrated database usage, 28% for cost, and an even lower 24% for risk.
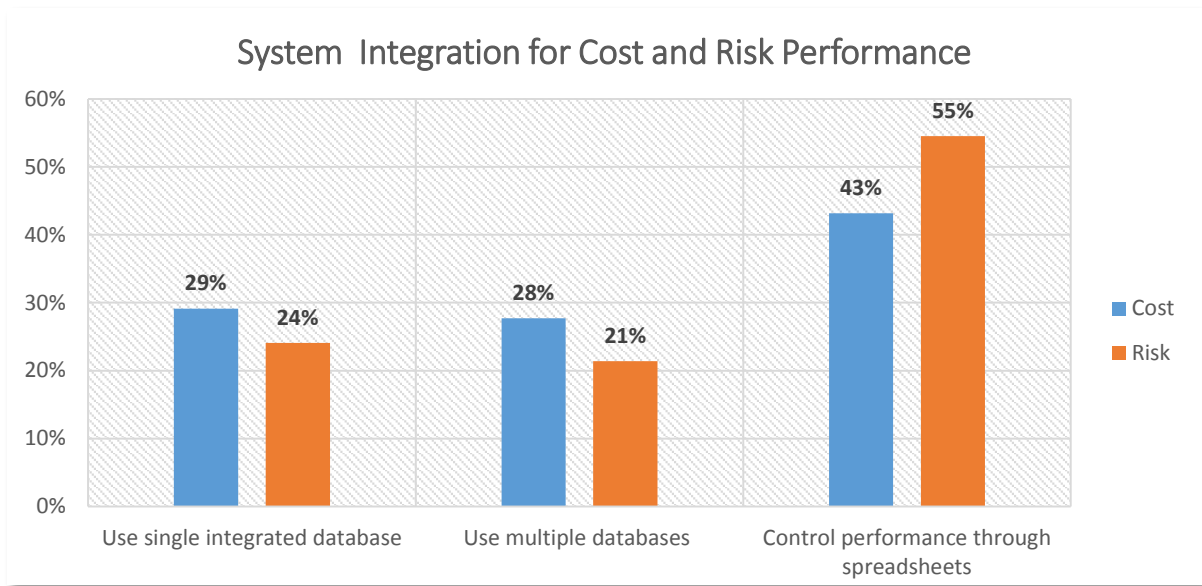
System Integration for Cost and Risk Performance

Figure 28 - Comparison of Risk and Cost system integration

It is worth mentioning that even for schedule management, 32% still reported not using databases or schedule management tools. This group of respondents were also identified with a much lower rating in processes quality.

Overall integration

Given the types of tool in use and the number of these which are controlled through integrated databases, we would not have expected results on overall integration to be high. As the graph below displays, only 8% reported that their systems are fully integrated, although a majority of 61% indicated that they have partial integration.
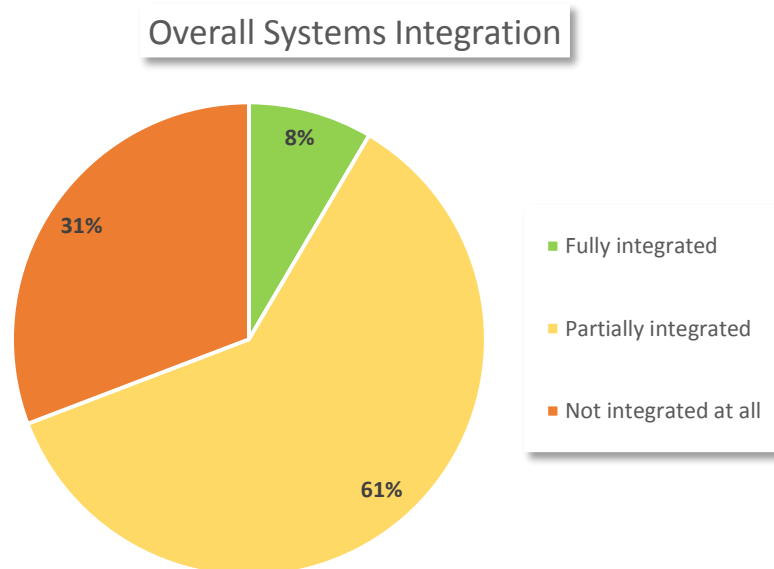

Figure 29 - Results for overall systems integration

We disaggregated this information by geographical area and by industry sector. The picture, which is displayed by the following graphs, is remarkably similar in both cases.
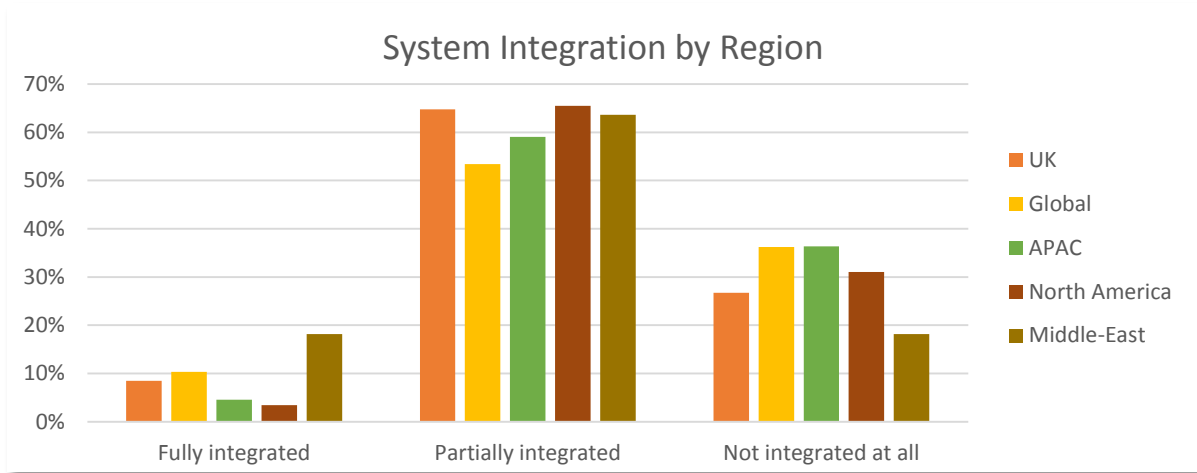

Figure 30 - Levels of system integration as reported by different Region groups
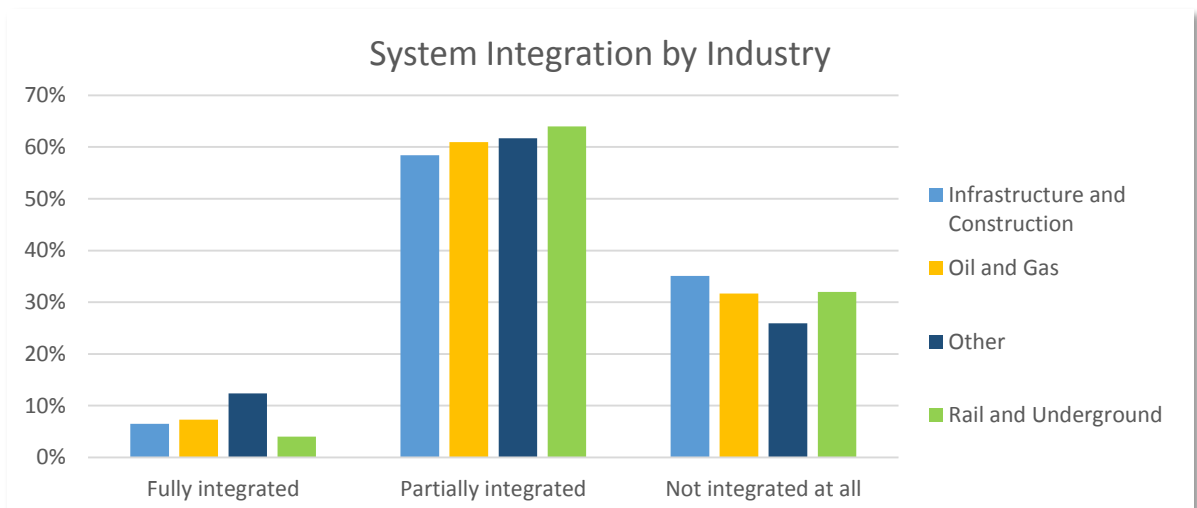

Figure 31 - Levels of system integration as reported by different Industry groups

As with people and processes, we were keen to understand how well the integration of project control systems correlates with successful project outcomes. The following graph describes this relationship:
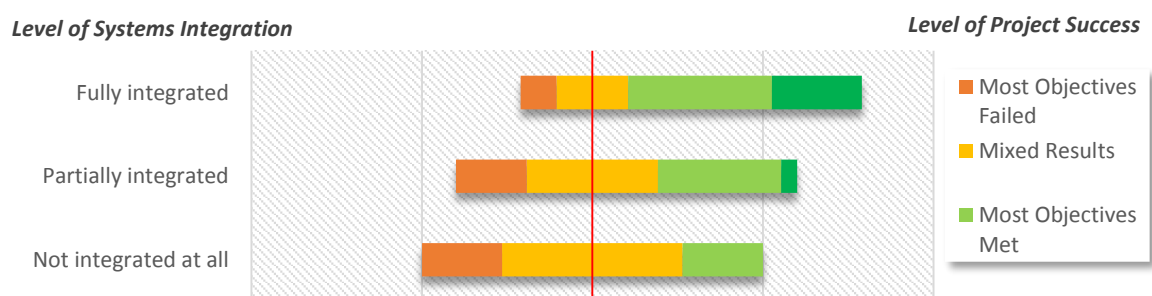

Figure 32 - Impact of System Integration on Project success

As can be seen, respondents reporting fully integrated systems also reported high levels of project success. Since this is only 8% of the survey population, it is unlikely that it is the systems integration itself which is driving that success. The data indicated that this state is achieved by organisations with a stronger overall solution, such that systems integration is just one of the factors leading to better outcomes.

Use of Business Intelligence Tools

Business intelligence tools are increasingly being used in business to analyse and mine data. We were interested to find out the extent to which this phenomenon is being utilised in projects.

The results indicate that this concept is only now starting to emerge, with only 15% of respondents reporting a level of BI use. This situation is likely to be associated with the levels of data usage and perhaps the noted requirement for more drive from the top of organisations to achieve visibility of project performance.

BIM and project controls

We are aware that the use of BIM is increasing on projects and is expected to make a significant contribution to improvement agenda.

We were interested to find out how many respondents are working with organisations that have experience of this and particularly how many are seizing the opportunity to integrate their BIM models with projects controls.
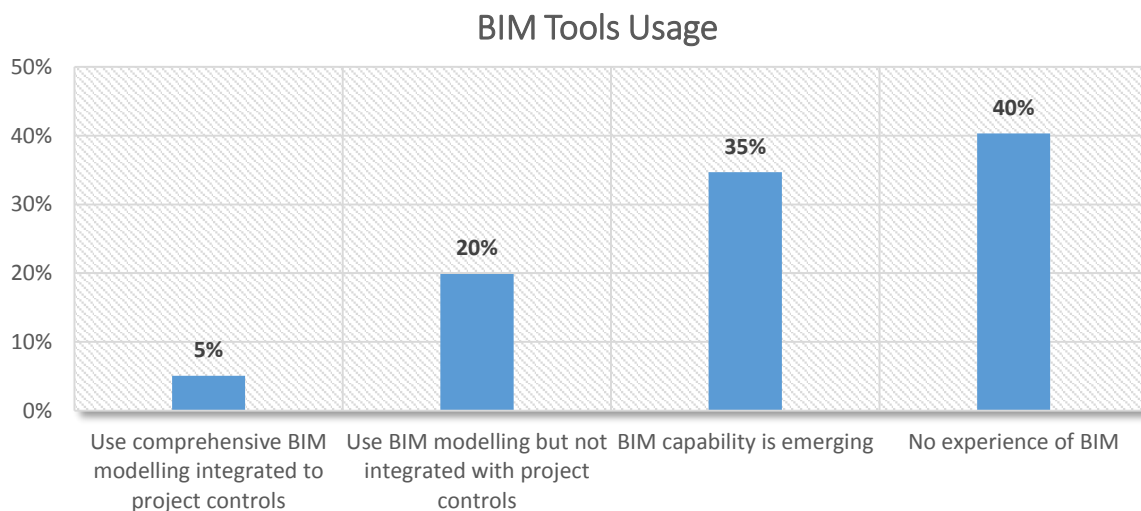
The results were as follows:

Figure 33 - Overall levels of experience and usage of BIM tools

25% of respondents are or have been working in organisations with established BIM capability. However, at this stage only 20% of this group, 5% overall, have managed to create a link between project controls and the BIM models in use.

Building out control plans from BIM models has obvious advantages in terms of consistency of information. We would expect, as both BIM and project controls develop in their application, that opportunities to align these disciplines will increase.

Whilst data has a bias towards the industries and geographical areas in which we operate, it is sufficiently generalised to enable us to draw some significant conclusions on the current status of project controls practice.

Importance and effectiveness

- The vast majority of respondents (89%) indicated that their organisations regard project controls as important, very important or critical
- The majority of respondents regard the current situation on controls as at least 'generally satisfactory', although around half of these recognise significant gaps which need to be addressed
- Standards appear to be increasing gradually, with 61% of respondents reporting improvement over the last 2 years compared with only 7% indicating a deterioration
- With the exception of the rail and underground industries, which report poorer standards, the position is consistent over different sectors and geographical areas

Relationship with project outcomes

- The data suggests a significant tendency for organisations operating effective project controls to also record more positive project outcomes
- This effect is consistent across the 3 dimensions of **People, Processes and Systems**
- Weaker project outcomes appear to be strongly associated with weak risk management and performance management processes
- Conversely, strong outcomes are particularly associated with good processes for schedule management, performance management, gateway approvals and cost management
- High levels of integration in both processes and tools are clearly associated with better project outcomes

Tools

- With the exception of the tools used for schedule control, where P6 based databases dominate, other tools appear less sophisticated, with Excel being reported by many as the primary tool used for controlling risk and cost
- Levels of integration between tools are generally low, with only 8% of respondents claiming that their tool sets are well integrated
- Use of BI tools is very limited, with only 15% of respondents indicating that these are used for project management
- BIM capability is emerging in respondent's organisations, but the link with controls appears still to be in its infancy

From the information provided, we believe that organisations which are dependent on successful outcomes from projects may wish to further review whether addressing capability gaps in projects controls may help to increase their chances of project / programme success.

In looking at driving improvements in this area, leadership at both senior level and within relevant functions are seen by respondents as critical areas to address.

Contact Details

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