Contract and commercial management benchmark report

Engineering, construction and real estate sector

One in a series of ten sector-specific reports
Preface

Abstract
Without contract and commercial management (CCM) capabilities the engineering, construction and real estate sector wouldn’t be where it is today, however, it’s time for reflection and re-baselining to enable further performance and growth.

About this report
In the period June – September 2021, World Commerce & Contracting gathered data from more than 800 organizations, providing in-depth visibility into their contracting and commercial capabilities. This report focuses on input from 51 companies in the engineering and construction sector, providing sector-specific analysis and comparison with cross-sector performance and trends.

How to use the WorldCC benchmark reports
Benchmarking compares against four levels:

Level 1
Your own past performance

Level 2
Others in your sector

Level 3
World-class standards

Level 4
Goals or vision

This report should be used to make a direct comparison with the current state of others in your sector (Level 2). The Benchmark Report 2021 (published September 2021) provides a cross-sector comparison, but more importantly offers insight to world-class performance, and can therefore be used to measure your current state against those world-class standards (Level 3).

Drawing from those standards of excellence, you may want to set a future goal or vision that represents an as yet unachieved aspiration and would set you apart from others (Level 4).
Executive summary

Robotics, modeling, advanced materials, modularity… the engineering and construction sector is undergoing rapid changes, driven by market forces of speed, affordability and innovative technologies. While many of those forces are not unique to this sector, they are potentially transformational in terms of commercial practices, contracting models and supply relationships and structures. The findings of this study suggest that many organizations are struggling to adapt to this fast-changing environment.

The impact on contract and commercial capabilities is substantial and has led to growing executive focus. A continued shift towards more scientific data models and alternative project delivery is driving the sector towards revised forms of contract and more sophisticated approaches to contract performance management.

Social and political trends continue to push increased levels of collaboration, and supply chain challenges require greater transparency. Advanced materials and technologies, such as 3D printing, are disrupting traditional forms of manufacturing, supply relationships and sector economics.

Adding to these factors, continued advances in regulation and worker safety are increasingly supplemented by the emerging environmental, social and governance (ESG) principles that are placing new demands – and potentially new standards – on the sector’s commercial and contracting practices.

It is factors such as these that are driving rapid change in the ways that suppliers are evaluated and contracts awarded, the form of agreements and the role that CCM resources must perform. Recent market conditions have resulted in reduced levels of investment in building capabilities. This pause must now be reversed so that organizations are equipped for new opportunities and new ways of working.
## Engineering and construction sector findings

### Priorities for improving CCM

The engineering and construction sector has a greater level of integrated buy-side / sell-side responsibilities than most others, reflecting the project-based nature of the sector, especially within construction.

This sector currently places the highest priority on improving internal processes. It is also slightly ahead of others in its work on developing and implementing a digital strategy for contracting. This focus on streamlining CCM activities is unsurprising given the sector’s use of advanced techniques, such as BIM and CAD software, in its product design and development. The other notable area for change is in respect of increased strategic relevance, which is linked to expanding the role of CCM, together with organizational change (37% highlight this as a priority, against a cross-sector average of 27%).

As we will see in subsequent sections, CCM responsibilities in this sector are strongly oriented towards post-award and are generally subservient to the business unit in areas such as commercial strategy and negotiation. Resources are also less likely to be centralized, which is consistent with a largely transactional role. Therefore, the potential for increased value from redefining and reorganizing CCM is substantial.

Based on this push for increased value, the data relating to skills is somewhat inconsistent. As a priority, it ranks lower than in other industries, yet as we will see in subsequent sections, the quality of existing skills is seen as a problem. This sector – and especially those in construction – is also less likely than others to have undertaken a skills audit, so there are perhaps two major reasons for these findings. First, the disaggregated nature of CCM resources does not lend itself to strategic thinking or planning. Second, in construction especially, there is a history of viewing contract management as an administrative task, often subservient to project management.

### The top five priorities for improvement (cross-sector ranking in brackets)

<table>
<thead>
<tr>
<th>Priority</th>
<th>Engineering and construction sector</th>
<th>Cross-sector average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improving internal processes</td>
<td>67%</td>
<td>64%</td>
</tr>
<tr>
<td>Raising skills of current staff / attracting and retaining talent</td>
<td>58%</td>
<td>50%</td>
</tr>
<tr>
<td>Increasing strategic relevance / demonstrating value</td>
<td>65%</td>
<td>39%</td>
</tr>
<tr>
<td>Expanding role and contribution</td>
<td>49%</td>
<td>44%</td>
</tr>
<tr>
<td>Developing / implementing a digital strategy for contracting</td>
<td>43%</td>
<td>37%</td>
</tr>
</tbody>
</table>

### CCM priorities for teams or functions

Being a sector that made early investments in CCM capability has put it ahead of many others in terms of maturity, perhaps reducing the sense of urgency for further improvement. For example, while this sector pulled ahead of many others in its adoption of tools, investment in these and the development of a digital strategy for contracting are strategic priorities for only a third of organizations. Similarly, the significant problem that many face over skills and retention of staff is indicative of an aging workforce and recruitment of skilled CCM practitioners by other sectors, and there is no apparent plan to reverse this trend.

As a sector with a long tradition of CCM capability, there has been substantial investment in people and systems. However, there is a need for change, to take advantage of modern technologies that not only streamline processes and data flows, but also support advanced analytics and more proactive risk forecasting and management.
The nature and extent of executive focus

CCM is an activity that is considered important by executive management in the engineering and construction sector and interest has grown, 73% reporting an uplift of focus and attention during the pandemic. This is considerably higher than the cross-sector average of 50% and indicates the extent to which challenging margins and constant market volatility make advanced CCM capabilities a critical issue. None of the survey participants reported that their executives consider this discipline unimportant, though 9% are experiencing a decline.

The priorities highlighted in the previous section represent clear indicators of this interest and of heightened expectations. This is borne out by an analysis of the specific improvement initiatives that are under consideration or in progress. Topping the list is an expanded role for CCM resources, followed by a more specific expansion in the areas of risk management and governance. Both feature significantly above the cross-sector average and represent advanced thinking, especially the increased integration of contract management with more formal governance standards and methods.

In several areas, this sector is placing much lower emphasis on improvement initiatives than others. Most notably, at 33%, increased adoption of contract management tools and systems is almost half the cross-sector average, and initiatives to develop new or revised terms and contract standards (24% versus 47%) show a similar difference. Contract simplification is also much lower than cross-sector norms, which is surprising and apparently inconsistent with the push for improved processes and digitization. The reasons behind these findings are examined later in this report.

Listed on the right are the improvement initiatives under consideration or in progress in this sector, with the percentage indicating frequency and the cross-sector average shown in brackets.

Other points that merit comment are the low percentages reporting an intent to revise measurements, take an increased role in ESG, and increase benchmarking and research. If CCM resources are to deliver a greater role and value, it is clear that functional performance measurements need to change, but this may be a matter of timing. With regard to ESG, given the extent of focus on this topic within the sector, it would seem that any increased role should include greater engagement – but again perhaps a matter of timing. In the full results, 0% indicate an increasing focus on benchmarking and market research. While this also appears incompatible with greater influence and value it should be noted that, compared with others, this sector already expends considerably more resource on this activity.

<table>
<thead>
<tr>
<th>Initiatives that are being considered (in the context of CCM)</th>
<th>Engineering and construction sector</th>
<th>Cross-sector average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role of CCM to be expanded</td>
<td>38%</td>
<td>52%</td>
</tr>
<tr>
<td>Increased role for CCM resources in risk management / governance</td>
<td>38%</td>
<td>29%</td>
</tr>
<tr>
<td>Change reporting line or organizational structure</td>
<td>33%</td>
<td>62%</td>
</tr>
<tr>
<td>Adoption of tools and systems</td>
<td>33%</td>
<td>26%</td>
</tr>
<tr>
<td>Contract analytics</td>
<td>33%</td>
<td>40%</td>
</tr>
<tr>
<td>Skills development</td>
<td>33%</td>
<td>40%</td>
</tr>
<tr>
<td>Segmentation, strategy based on relationship types</td>
<td>29%</td>
<td>24%</td>
</tr>
<tr>
<td>Develop new / revised terms and standards</td>
<td>24%</td>
<td>47%</td>
</tr>
<tr>
<td>Knowledge management</td>
<td>24%</td>
<td>29%</td>
</tr>
<tr>
<td>Simplification</td>
<td>19%</td>
<td>19%</td>
</tr>
<tr>
<td>Revised measurements</td>
<td>10%</td>
<td>19%</td>
</tr>
</tbody>
</table>
The current state of CCM technology

In terms of deployment, the data shows the engineering and construction sector significantly ahead of most others. However, it also reveals that investment has stalled, with very few reporting that acquisition or roll-out is ‘in process’. These findings are consistent with the much lower percentage that are indicating initiatives around acquisition and adoption of contract management tools and systems.

Given the extent to which advanced technology has been deployed in other parts of the business, the level of past investment in automating contract and commercial management is perhaps not surprising. However, there is no immediate evidence that this is translating into substantially better levels of process efficiency. There is some indication that the quality of data allows more effective insight to risk and generates more actionable reporting.

As the table (right) shows, adoption has occurred almost across the board in terms of functionality – and further deployment is almost at a stand-still in many areas. The market and economic uncertainties created by the pandemic were a factor in this moratorium and continued volatility may delay recovery.
The current state of CCM technology (continued)

‘As highlighted in earlier comments, past investments in this sector have put it among the leaders in terms of the functionality that has been implemented. However, the chart (right) shows the changing nature of the market and the shift to more outcome- and performance-based contracts will generate a greater need for systems to support performance.

For those planning investment in new or upgraded technology, the priorities are:
- Achieving integrated data flow
- Improving operational performance
- Reducing value erosion
- Overall visibility into contracts / contract data.

<table>
<thead>
<tr>
<th>Levels of interest in and adoption of CCM technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some interest</td>
</tr>
<tr>
<td>90%</td>
</tr>
<tr>
<td>80%</td>
</tr>
<tr>
<td>70%</td>
</tr>
<tr>
<td>60%</td>
</tr>
</tbody>
</table>

Progress

1. Repository of signed contracts
2. Management reporting / dashboard
3. Monitor reviews / approvals status
4. Ability to assemble standard contracts from templates
5. Integration with other key applications (ERP, financial systems, etc.)
6. Post-signature monitoring of compliance with contract terms
7. Front-end contract request / selection interface to business unit
8. Contract obligation extraction
9. Collaboration portal for joint editing
10. Risk scoring
11. Contract analytics – individual agreements
12. Contract analytics – portfolio of agreements
13. Automated document circulation, redlining
14. Ability to assemble contracts from a clause library
15. Defined and automated workflow for non-standard terms or agreements
16. Digitized contract playbooks
17. Artificial intelligence / machine learning

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## Contracts and the contracting process

Even if they are generally more complex and higher value, the typical contract duration in the engineering and construction sector is lower than average at 2.1 years (medium-complexity) and 4.5 years (high-complexity), versus the cross-sector norm of 3.2 and 5.8 years.

### Contract duration

<table>
<thead>
<tr>
<th>Complexity</th>
<th>Engineering and construction sector</th>
<th>Cross-sector average</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-complexity</td>
<td>4.5 years</td>
<td>5.8 years</td>
</tr>
<tr>
<td>Medium-complexity</td>
<td>2.1 years</td>
<td>3.2 years</td>
</tr>
</tbody>
</table>

However, 44% of respondents report that duration is increasing (with just 4% saying it is decreasing), reflecting the change in agreement models as the sector moves towards ‘deliver, operate, maintain’.

As with most sectors, engineering and construction sector contracting is dominated by templates and often these are based on sector standards, or derivatives from those standards. These levels of standardization have enabled greater use of technology that supports contract assembly and the sector is also ahead of others in deploying standard terms databases that allow flexibility in constructing contracts (20% have this capability, versus 12% in other sectors). This ability to construct contracts from a clause database is the ‘most wanted’ functionality, with 53% saying it is something they would like to have. As the section on Technology revealed, there are also relatively high levels of automation in contract workflow and this, together with obligation extraction and integration across systems, is high on the ‘wanted’ list.

Overall, 42% of agreements are signed without amendment, a higher proportion than the 31% cross-sector average. This naturally means a below-average frequency of negotiation, which contributes to a lower amount of time spent on this activity (see section on Responsibilities).

In looking at initiatives under consideration, we noted that the engineering and construction sector is less likely to be simplifying its contracts. However, in terms of initiatives underway or completed, the sector is at a similar level to others. For most (21% sell-side and 25% buy-side), this has involved both language simplification and structure and design.

In terms of the types of contracts in use, this sector shows significant variations from others. This is most notable in the extent to which outcome-based agreements are used (59% frequent use versus the average 25%). Against this, agile forms of contract are at present rarely used, with 75% (53%) saying they are not used at all.

Given the complexity of many projects and the shift in contracting and risk models, greater use of agile agreements appears desirable and will require training in their development and management. Another area where the sector faces continued pressure is in the use of collaborative / relational contract models and this is reflected in the 41% (8%) who are seeing extensive or increasing adoption. Performance-based agreements are also more common (42% versus 30%) and as-a-Service less widely used (29% versus 37%).

### Performance-based agreements

<table>
<thead>
<tr>
<th>Complexity</th>
<th>Engineering and construction sector</th>
<th>Cross-sector average</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-complexity</td>
<td>42%</td>
<td>30%</td>
</tr>
<tr>
<td>Medium-complexity</td>
<td>30%</td>
<td>29%</td>
</tr>
<tr>
<td>Low-complexity</td>
<td>29%</td>
<td>37%</td>
</tr>
</tbody>
</table>
Contracts and the contracting process

CCM groups in the engineering and construction sector have had some success in disengaging from low-complexity agreements, getting involved 47% of the time (versus 67%). However, this has not translated to significant time saving, since low-complexity agreements still absorb 20% of resource (average 21%). The lower proportion of medium-complexity agreements is reflected in lower levels of resource allocation (31% versus 36%) and correspondingly greater allocation to high-complexity (49% versus 42%). Given the scale of technology deployment, the proportion of resource supporting low-complexity agreements is surprising and represents an area where there should be opportunity to increase efficiency.

Engagement with particular types of transaction or agreement by CCM groups is generally below other sectors. The one exception is in managing change and renegotiation (see chart right). Perhaps the biggest surprise relates to Statements of Work. Given their high level of use in this sector and their significance to the management of risk, it is an area for increased future engagement and also where technology could be deployed to greater effect.

The chart shows responses to the question: “In the context of your organization’s business activity, how frequently do you have substantial input to the following contract or relationship documents/offerings?”

The percentages represent those who answered either “all the time” or “most of the time”. Some results are surprising, for example, the lower-than-average percentage showing involvement with outsourcing and change / renegotiation. These responses merit further investigation.
Resources, organization and reporting

The previous section indicated that CCM responsibilities in the engineering and construction sector are more tightly focused, with a lower level of engagement in the typical range of relationships (in some cases because those relationship types are not in such wide use). There is also some lack of clarity over responsibilities, with 22% saying that it is not clear who is responsible for contract management and 17% indicating that it varies by business unit. Although commercial management is somewhat clearer, 36% still say that there is either no clarity or it varies.

**Clarity of responsibility for contract management**

<table>
<thead>
<tr>
<th>Responsibility is clear</th>
<th>Varies by business unit or country</th>
<th>No clear responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>60%</td>
<td>17%</td>
<td>22%</td>
</tr>
<tr>
<td>63%</td>
<td>25%</td>
<td>12%</td>
</tr>
</tbody>
</table>

**Clarity of responsibility for commercial management**

<table>
<thead>
<tr>
<th>Responsibility is clear</th>
<th>Varies by business unit or country</th>
<th>No clear responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>64%</td>
<td>18%</td>
<td>18%</td>
</tr>
<tr>
<td>58%</td>
<td>28%</td>
<td>14%</td>
</tr>
</tbody>
</table>

Where responsibility is clear, CCM is a dedicated role in 74% of organizations (cross-sector is 69%).

When CCM activities are performed as part of another job role, there is wide distribution across different functions. In 33% of cases, the role sits as part of Sales. Otherwise, it is relatively evenly distributed across Procurement, Project Management, Operations or Finance, each with around 15–18%. This distribution is quite distinct from other sectors, where responsibility is rarely in Sales or Finance.

Organizational design in this sector is also different from others, being far more distributed. This means that only 32% are centralized or center-led, versus the cross-sector average of 52%. The preference for a matrixed structure (46%) is logical when activities are designed around individual projects, but this tends to reflect a less strategic and less influential role in the business – which certainly appears to be the case in the engineering and construction sector. The fact that there is a need to expand the role and its value explains why there is considerable focus on organizational change and also questions over existing functional leadership, given the need to make a significant transition in purpose, skills and (potentially) tools and systems.

With regard to current reporting line, 30% operate within a commercial function, closely followed (22%) in project management (the highest percentage of any sector). 17% report no consistent reporting line, 13% operations and 9% finance. Where there are alternative reporting lines, these are almost equally split between legal, sales, supply management and finance.

**CCM reporting**

<table>
<thead>
<tr>
<th>Commercial</th>
<th>Project management</th>
<th>No consistent reporting line</th>
<th>Operations</th>
<th>Finance</th>
</tr>
</thead>
<tbody>
<tr>
<td>30%</td>
<td>20%</td>
<td>17%</td>
<td>13%</td>
<td>9%</td>
</tr>
<tr>
<td>20%</td>
<td>5%</td>
<td>14%</td>
<td>10%</td>
<td>10%</td>
</tr>
</tbody>
</table>

As indicated in the introduction, more buy-side and sell-side consolidation occurs in this sector than most others. Only 32% report no integration, (65% cross-sector). For 23%, CCM is a fully integrated activity (10% cross-sector) and 41% partial (21%). Again, this is indicative of the project-based nature of many organizations, especially in construction, and historic levels of custom programs with high levels of sub-contracting. New models and more modular design may alter this balance and raise questions over the benefits of integration. While arguments for a consolidated function are strong, the critical issue going forward is integration of data flows to support greater visibility and improved risk management. This demands integrated systems more than integrated people or job roles.

Finally, this sector makes less use of outsourcing, especially offshore resources (14% versus 29%). This may represent an opportunity for cost reduction. The primary activities using outsourcing are contract administration / performance monitoring and contract review / discovery. Use in accounts payable / receivable, is lower than other sectors.
Responsibilities and time allocation

The primary areas of responsibility for CCM resources in the engineering and construction sector are similar to those in other sectors, though there are differences in ranking and level of importance which indicate the more project-oriented role and much reduced levels of business influence and strategic engagement.

Reflecting the more integrated nature of buy-side / sell-side activities, a number of roles that are typically within Procurement feature much higher in the list. Others, such as advice / guidance to the business, are much lower, but potentially explained by the fact that within this sector the resources frequently are within the business.

Areas where there is substantially less engagement include leading or supporting change initiatives (at 21%, less than half the cross-sector average), managing changes to policy and practice, and maintaining or implementing tools and systems (in each case, a similar difference of only half the level).

The chart (right) shows the top ten areas of responsibility, compared to the cross-sector average.

The second chart (far right) shows responsibilities in a different form and reflects answers to the question “In the context of specific contracts, who has primary responsibility for the following activities?” The percentage represents those who answered “my team” (i.e. CCM). This confirms the focus on post-award support, followed by requirement review; in other areas, the Business Unit is typically dominant, except in sub-contracting, where responsibility splits three ways – “my team”, the business unit and Procurement.

<table>
<thead>
<tr>
<th>Top ten responsibilities</th>
<th>Engineering and construction sector</th>
<th>Cross-sector average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negotiate</td>
<td>84%</td>
<td>83%</td>
</tr>
<tr>
<td>Post-award contract management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bid review / input</td>
<td>79%</td>
<td></td>
</tr>
<tr>
<td>Establish commercial / contracting strategy</td>
<td>74%</td>
<td></td>
</tr>
<tr>
<td>Draft / develop contracts</td>
<td>68%</td>
<td></td>
</tr>
<tr>
<td>Supplier selection and award</td>
<td>63%</td>
<td></td>
</tr>
<tr>
<td>Pre-bid / market engagement</td>
<td>41%</td>
<td></td>
</tr>
<tr>
<td>Advice / guidance to business</td>
<td>47%</td>
<td></td>
</tr>
<tr>
<td>Supplier relationship management</td>
<td>42%</td>
<td></td>
</tr>
<tr>
<td>Maintenance / compliance with standards and policies</td>
<td>37%</td>
<td>59%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Who has primary responsibility for activities in the context of specific contracts</th>
<th>Engineering and construction sector</th>
<th>Cross-sector average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance management</td>
<td>26%</td>
<td>50%</td>
</tr>
<tr>
<td>Reviewing requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leading negotiation team, setting negotiation strategy</td>
<td>32%</td>
<td></td>
</tr>
<tr>
<td>Evaluating cost</td>
<td>28%</td>
<td></td>
</tr>
<tr>
<td>Relationship management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Setting or negotiating price</td>
<td>23%</td>
<td></td>
</tr>
<tr>
<td>Sub-contracts – selection and negotiation</td>
<td>24%</td>
<td></td>
</tr>
</tbody>
</table>
Responsibilities and time allocation (continued)

There is close alignment between the analysis of major responsibilities and where time is spent. However, resource allocation is heavily weighted to several dominant activities, to a significantly greater extent than in most other industries. Post-award contract management, bid review, and negotiation absorb almost half of the CCM resources, against 36% in the cross-sector average.

Some of the variation in this data is explained by the fact that CCM resources in this sector (especially in construction) often sit within the business and therefore may view activities in a different way.

The top ten activities, in terms of resource allocation, again compared to the cross-sector average, are shown in the chart (right).

In summary, these results suggest that many organizations operate with a relatively complicated approach to contract and commercial management, involving multiple hand-offs throughout the process. Others operate with a decentralized model, where activities and decisions occur largely at the business unit level.

These approaches may work well at a transactional level in relatively predictable market conditions, but they are likely to struggle when capabilities and offerings need to adjust to meet fast-changing market conditions.
CCM objectives and readiness

While the ranking of the leading CCM objectives in the engineering and construction sector is similar to the cross-sector average, there is a significantly greater emphasis on the management of change and identification of opportunities for value-add. These differences are again most notable in the construction sector and are a consequence of typically low margins and the frequency of change during contract performance. It is clear that the objectives are applied in the context of individual transactions, not at a strategic business level. Risk mitigation is a dominant factor for both contract management and commercial management. However, in relation to contract management, it stands well above the remaining objectives. In the context of commercial management, the top five objectives are more evenly distributed in importance.

Primary objectives for contract management (cross-sector average ranking in brackets)

1. Risk mitigation / management (1)
2. Ensure business controls / compliance (2)
3. Manage change (5)
4. Identify opportunities for added value (8)
5. Financial impact (4)
6. Negotiation center of excellence (3)
7. Ensure business controls / compliance (7)
8. Identify opportunities for added value (6)
9. Risk mitigation / management (2)
10. Financial impact (1)

For commercial management, there is less focus than in other sectors on customer needs or external relationships and much stronger emphasis on internal factors to drive financial performance and controls.

Primary objectives for commercial management (cross-sector average ranking in brackets)

1. Ensure business controls / compliance (7)
2. Identify opportunities for added-value (6)
3. Negotiation center of excellence (3)
4. Risk mitigation / management (2)
5. Financial impact (1)

As highlighted throughout this report, CCM resources in the engineering and construction sector demonstrate significantly higher levels of transactional focus and on average are less engaged in change initiatives or identifying broader opportunities for improvement. When comparing this data with the identified executive priorities, there is clearly a need for a major transition in time and focus. Given the operational challenges facing the sector, the extent of required change will prove demanding and is likely to require sustained executive focus.

One important indicator of a readiness for change is the extent to which market research is undertaken. Gathering these ‘outsights’ is invaluable in benchmarking and setting an improvement agenda. In this area, the engineering and construction sector is among the leaders. The areas where CCM groups would most like to gather additional data are:

1. Best practices in offering design and contract structure
2. Trends in commercial offerings
3. Pricing / charging models
4. Competitive terms and conditions
5. Performance benchmarking

The final indicator from the benchmark relates to skills and the extent to which this sector is identifying and addressing gaps. While skills and retention appear in the top five strategic priorities, this is an area that features lower than in many other sectors. This is reflected in the fact that those in the engineering and construction sector are less likely to understand skills gaps relative to future needs (38% versus 51%) and also less likely to have adequate budget to support necessary skills development (29% versus 43%). Once again, this data suggests relatively low levels of CCM readiness to deal with the changing market conditions.
Measurements

The extent of executive focus on improving the value achieved through CCM capabilities is a clear indication that performance must improve in the engineering and construction sector. Measurements will be critical to change, both in the context of setting goals and also in identifying and monitoring improvement initiatives.

This section starts by examining two of the most commonly used efficiency / productivity indicators – contracts managed per head, and cycle times. Each of these must be viewed with some caution and allowance made for differences in roles and responsibilities, or perceptions of complexity.

The charts (right) show contracts managed per head. In the pre-award phase, there is on average a 25% adverse difference in the number of contracts managed. In the post-award phase, the adverse difference increases to 50–60%.

In reviewing these findings, allowance must be made for the fact that different sectors have differing views of what constitutes ‘complexity’. An interesting observation with regard to the engineering and construction sector is that the scope of pre-award responsibilities for CCM groups is narrower than the cross-sector average and the use of technology is greater, yet the volume of contracts handled per head is substantially lower.

In post-award, the position in terms of responsibilities is reversed and this goes some way to explaining the large discrepancy in volume. If comparison is reduced from ‘all-sector’ to ‘selected sectors’ based on equivalent complexity, the overall performance gap reduces to approximately 20% – still sufficient to merit further exploration on how efficiency improvements could be made.

A second measure that assists in determining whether resources are operating at high levels of efficiency is cycle time. The chart (below) explores this in terms of the average cycle time from inception of bid to contract signature. On this measure, the engineering and construction sector performs much better, with faster cycle times than the cross-sector average by approximately 12%.

<table>
<thead>
<tr>
<th>Contract cycle time domestic agreements (weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-complexity</td>
</tr>
<tr>
<td>Medium-complexity</td>
</tr>
<tr>
<td>Low-complexity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contract cycle time international agreements (weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-complexity</td>
</tr>
<tr>
<td>Medium-complexity</td>
</tr>
<tr>
<td>Low-complexity</td>
</tr>
</tbody>
</table>
Measurements (continued)

Looking at measurements more broadly (see chart below) the variation in the engineering and construction sector from cross-sector norms is interesting and offers insights to the pressures on this sector from the frequent changes that occur in engineering and construction projects. While a number of the areas of measurement are encouraging and can lead to process and performance improvements, it is also interesting to note some of the areas which this sector is far less likely to monitor. For example, compared with others, organizations in engineering and construction do not measure or report on CCM improvement initiatives; they are unlikely to monitor negotiated benefits, risk scoring, or levels of internal or vendor satisfaction.

**Top items monitored**
*(cross-sector ranking shown in brackets)*

1. Cost reductions achieved (1)
2. Monitor satisfaction of customers – external (13)
3. Risk management indicators (9)
4. Frequency and source of disputes / claims (17)
5. Cycle times – process phases (11)
6. Compliance with standards, scorecards by our staff (5)
7. Cycle times to manage changes / claims / disputes (22)

The areas that are monitored (see chart below, left) are diverse – and very different from the measurements that are reported (chart, right). When compared with other industries, the reported measures are in many cases more actionable. For example, those on contract leakage and impact on margin are encouraging as sources of current and future value. If applied correctly, they provide insights to improvement opportunities and provide CCM groups with an ability to deliver the increased value sought by executives.

By comparison, what’s reported has a skew towards measuring inputs such as use of approved templates, along with root cause analysis of contract value leakage, which indicates a sector where there is a desire to create learning / feedback loops to enhance future performance.

**Top items reported**
*(cross-sector ranking shown in brackets)*

1. Adherence to specification (3)
2. On-time delivery (8)
3. Supplier performance (9)
4. Contract compliance – during performance (2)
5. Contract compliance – use of approved standards (6)
6. Contract leakage / cause analysis (14)
7. Impact on margin (15)
Barriers to improvement

What factors are constraining the performance of CCM groups in the engineering and construction sector, and the development of improved capabilities? While in some areas there is similarity, this sector shows some significant variations with the cross-sector average (see chart, right).

The message that emerges is that skills are a major problem. Early involvement, in second place, is typically linked with the perceived value of the CCM contribution – for example, do CCM resources bring unique market or competitive knowledge; do they offer problem-solving or advanced negotiation skills; do they provide analytical insights that speed closure or deliver positive financial impact. The fact that this may be a problem is confirmed by barriers four and five, which suggest that current resources – and especially current leadership – may not be keeping pace with fast-changing market needs and the competitive landscape.

### Top barriers to improvement

<table>
<thead>
<tr>
<th>Factor</th>
<th>Engineering and construction sector</th>
<th>Cross-sector average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational workload</td>
<td>55%</td>
<td>56%</td>
</tr>
<tr>
<td>Not involved early enough in process</td>
<td>46%</td>
<td></td>
</tr>
<tr>
<td>Budget</td>
<td>45%</td>
<td>43%</td>
</tr>
<tr>
<td>Functional leadership</td>
<td>43%</td>
<td></td>
</tr>
<tr>
<td>Quality of existing skills</td>
<td>37%</td>
<td></td>
</tr>
<tr>
<td>Establishing data</td>
<td>37%</td>
<td>41%</td>
</tr>
</tbody>
</table>

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Conclusions

In the introduction, we highlighted the scale of change that challenges the engineering and construction sector. Over recent years, it has made heavy investment in new methods, techniques and technologies. Commercial and contracting practices and capabilities have struggled to keep pace and are now under pressure to implement rapid changes, at a time when resources are stretched and, in some cases, may not be capable of making the necessary transition.

As a project-based sector, engineers and program managers tend to ‘rule the roost’, often relegating CCM into a reactive and transactionally-focused activity, lacking strategic influence. With the scale of change now occurring, the power balance needs to alter. Alternative project delivery, a shift from low-cost to total value, the acquisition of integrated ‘deliver, operate and maintain’ facilities and infrastructure – changes such as this mean that historical precedent is no longer applicable, that traditional forms of agreement no longer apply, that the risks of the past are different from those of the future. Factors such as these demand new thinking, new skills and new levels of relational collaboration – and they require CCM capabilities to be embedded throughout the business.
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