Tomorrow’s engineering leaders

As engineering redirects its attention from solutions to services, leaders will require qualities that go beyond technical proficiency and include a more people-focused approach.
Global engineering is going through a challenging phase. The combination of a growing need for multi-talented engineers is compounded by a general trend of waning interest in engineering as a career choice by young people in many countries.

Much is being done to ensure that the talent pipeline from secondary education to professional qualification will provide the quality and volume of engineers required to fuel the growing demand.

However, these initiatives alone will not be enough to deliver world-class engineering in a rapidly changing global market.

Why? Because many engineering organizations are shifting their focus from technical, product based solutions to whole-life engineering services that support their own, and in some cases their competitors', products.

This major realignment places new demands on the industry: more customer focus and partnering skills; business insights derived from an engineering perspective; and a long term, strategic approach to program management.

The selection and development of engineering leaders has not traditionally focused on these areas. Now it must. The profile of a successful engineer is changing and therefore, if they are to succeed, the way organizations select and develop their leaders must change too.
Leaders in engineering, and those whose job it is to identify and develop them, face a fresh set of challenges as the industry evolves. Working with a wide variety of engineering clients, we have identified three areas where changing conditions apply and new questions must be answered.

1. Leadership is not on the engineering syllabus

Engineers’ primary focus is, for obvious reasons, on precise specifications, professional standards and high quality outcomes. They are trained to concentrate on the form, structure, dynamics and specifications of what they produce. They focus on meeting standards, eliminating risk, thinking vertically and drilling down into detail.

In our experience, many engineers find it challenging to step away from operational delivery and adapt to the demands of leading and delivering results through others – let alone doing it in an engaging and visionary way.

Instead, they tend to lean towards a very different style of leadership. Our assessment data shows that they rely heavily on leading from the front, setting high standards and modelling the approach they expect from their teams.

These are all effective traits in the right situations, but they often take precedence over other desirable attributes: setting and communicating a clear vision, thinking more strategically, empowering others, and developing the long term capability of individuals and teams.

Things to consider:

- When identifying, selecting and developing your engineering leaders, examine their non-business leadership ability as carefully as their technical qualifications, expertise and experience.

- Don’t just look at what they know and what they’ve done, but find out how they’ve done it. How effective are they at engaging, interacting, partnering with, and managing people?

“Engineers tend to be very technically focused. The business needs them to mix this with a commercial outlook and customer-centric mindset.”

Jonathan Brown
Chief operating officer | Rolls-Royce Nuclear
2. Evolution requires a new leader

As globalization gathers pace, reliance on technology increases and the workforce shrinks, engineering companies are fast devising new ways to create value for their customers, often on an international scale. Many of those we work with are shifting the emphasis from products to services in a bid to create businesses with the resilience to endure market downturns and sparse product order books.

This evolution requires a different type of leader; one who understands large scale systems, collaborates with customers and competitors, and adopts a truly global view of their operating environment. He or she will also be capable of taking charge of highly complex technical engineering activities.

Many organizations don’t currently have leaders with these capabilities. Those that do tend to rely on a handful of ‘stars’ and are not actively developing their successors.

“...We’re focusing on building a dual career path in engineering, and celebrating the management and leadership route as well as the technical option.”

Global HR director for engineering multinational engineering firm

Things to consider:

- What sort of leaders will best deliver on the long term strategy and how will you select and develop them?

- Understand which leadership roles are critical to your organization (it may not be the most senior ones) and make sure you have a clear succession and development plan in place to build and maintain capability.

Case study

Leadership development in changing times

Korn Ferry Hay Group created a global competency framework for a major aerospace and defence firm. We updated and simplified the model a few years on, in line with changes to the business and its objectives. This version therefore puts more emphasis on international working and cross-border collaboration.

The framework sets out standards for how leaders and managers across the business should behave to enable the company to deliver its strategy. It enables us to regularly assess the capabilities and potential of the firm’s leaders against the competencies the company requires of them.

We also benchmark the results against competitors, to see how the client’s senior management population measures up. Based on this analysis, we recommend actions for the firm’s leaders to build on their strengths and address their development needs, in order to have a more positive impact.
Wanted: a new breed of leaders

Between 2010 and 2020 the demand for managers, directors and senior officials in manufacturing will increase by 11% in the UK, while demand for process, plant and machine operatives will fall by 23%. It is true that engineers will always need to demonstrate sound technical competence. But it’s their non-technical capabilities that will enable them to succeed in the future, particularly in leadership roles. These attributes—often in the past undervalued when selecting and developing engineers—must now be seen as essential.

3. Start early: developing great leaders takes time

Engineering experience and expertise are rightly valued. They’re the usual basis for identifying potential and mapping career progression in most engineering organizations. This works well enough for largely skill focused roles, including senior positions at the top of the technical tree. However, our experience shows that consideration of leadership potential is all too often left until late in an individual’s career. Unsurprisingly, this has a negative impact on both the individual and the organization, and can lead to senior engineers failing to meet the demands of increasing leadership responsibility.

Things to consider:

- With your business strategy in mind, define the behaviors required to be a successful leader in your organization. Establish a consistent process for identifying them at an early stage.
- Learn to spot potential leaders who meet your criteria early on in their careers and in good time to develop them further. This will give them the best chance of success when a challenging leadership role arises.
- Ensure that, from a junior level, your engineers participate in leadership and business development activities. Encourage them to enhance their technical and domain knowledge and skills.

“Our experience shows that consideration of leadership potential is all too often left until late in an individual’s career.”

Case study
Picking the winners

A large transport engineering company employing some 30,000 people had been selecting and developing talent in variable ways across the organization and its disciplines. We worked with the company to design a consistent framework that covered all major functions, together with a competency model that defined specific profiles for each role—distinguishing between technical and managerial career paths. Our online assessment platform helped managers make employee decisions against these criteria, while a career guide provided staff with clear advice on their professional development. The company and its workforce now benefit from a comprehensive, efficient and consistent method for selecting talent. They have also gained a clearer understanding of the role that non-technical behaviors play in effective engineering leadership.
Four qualities the future demands

We have found that the best organizations make a clear distinction between their people’s current performance and future potential. They look beyond how leaders are delivering now to examine the likelihood of them succeeding in more complex and senior leadership roles. This is wise.

To help them do it well, we draw on our extensive experience to define four qualities that identify an individual’s readiness to extend themselves beyond their current role. Tested against data from thousands of assessments conducted by us around the world, these attributes are:

1. **Eagerness to learn:** the willingness to take a risk in exchange for the opportunity to learn something new. This factor reflects an individual’s confidence in stretching beyond their comfort zone, as well as their ability to listen to—and learn from—others.

2. **Breadth of perspective:** the ability to include multiple perspectives and disciplines when evaluating and solving problems. This involves viewing a given job within the broader context of the organization, and becomes increasingly important as a manager rises to more senior levels.

3. **Understanding others:** the capacity to accurately perceive other people’s perspectives and experiences. This factor is a measure of an individual’s motivation and ability to learn from others—particularly those with different outlooks—by listening with care and respect.

4. **Personal maturity:** the ability to see criticism and difficulties as opportunities for learning and growth. Every senior manager knows the path to leadership can be challenging, even painful, with setbacks along the way. The mature leader maintains emotional balance and keeps on learning in the face of turmoil.

Looking out for these four qualities as you select and develop your engineers will help to ensure you invest your time and money in the right people.

“**We have found that the best organizations make a clear distinction between their people’s current performance and future potential.”**

**Will it fly?**

There are cautionary lessons in leadership to be learned from the global aerospace and defence sector. Our work with companies in these industries over the past ten years shows that their leaders excel at:

- solving problems
- focusing on results
- acting with integrity

But they are weaker in other areas:

- visionary leadership
- influencing
- strategic thinking

- building relationships
- developing other people

In essence, these leaders concentrate on delivering tangible results and fixing problems, rather than addressing root causes or preventing them in the first place.

This approach will not support an organization’s intent to move from product to service based provision, and it will not prepare their engineers to help shape and drive long term strategic objectives.
Engineering is in our blood

For many decades, Hay Group has worked with a range of engineering organizations to measure the impact of their leaders.

We recently analysed our assessment data, to find out what leadership styles leaders in engineering firms use, and how these impacted on the climate leaders were creating within their team. (We describe climate as ‘what it’s like to work here’; climate scores have a direct impact on bottom line performance).

Our findings told us that leaders in engineering firms tend to be more directive than other leaders in our database (see Figure 1). When people use the directive style there is often little or no context setting and feedback, if any, tends to be negative, corrective and at times coercive.

The directive style is effective in certain circumstances. But, it can have a negative impact on team climate if used over a long period of time. We can see this in our data. It shows that leaders in engineering firms tend to score lower on four out of the six dimensions of Climate compared to non-engineers: Clarity, Standards, Responsibility and Reward. Clarity is a particular issue as it has the biggest impact on bottom line performance.

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**Figure 1**  
Use of the directive style for leaders at engineering firms vs. others.

<table>
<thead>
<tr>
<th>Style</th>
<th>Engineering</th>
<th>Non-Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive</td>
<td>59</td>
<td>54</td>
</tr>
</tbody>
</table>

**Figure 2**  
Workplace climate—things could be better.
The data suggests that Engineers should be cautious not to overuse the Directive style. Focusing on developing longer-term styles of Visionary, Coaching, Participative as well as the Affiliative style will have a positive impact on Climate as the use of these styles all correlate with higher levels of Clarity, Standards, Responsibility and Reward.

**Visionary**—setting long term objectives and communicating them clearly at an organizational, team and individual level.

**Participative**—routinely inviting input from across the engineering function, other business areas and externally to define the best possible solution, while ensuring that all relevant people also feel genuinely involved.

**Coaching**—looking beyond the immediate task to identify and open up opportunities for individuals to develop their capabilities and behaviors, in line with both their career goals and the needs of the organization.

What are the six dimensions of Climate?

Climate describes individual employees’ perceptions of the aspects of their environment that directly impact how well they can do their jobs.

We measures the six dimensions of organizational climate that have the biggest impact on team performance. The feedback gives managers an accurate picture of how the climate they create affects their team members’ ability to do their jobs.

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- **Flexibility**
  - No unnecessary rules, procedures, or policies.
  - New ideas are easily accepted.

- **Responsibility**
  - Employees are given authority to accomplish tasks without constantly checking for approval.

- **Standards**
  - Challenging but attainable goals are set for the organization and its employees.

- **Rewards**
  - Good performance is recognized and rewarded. Employees know what they do well and what they need to improve.

- **Clarity**
  - People know what is expected of them and how they contribute to organizational goals.

- **Team Commitment**
  - People are proud to belong to the organization. They collaborate toward a common objective.

There is of course no single perfect leadership style; successful leaders employ a range of techniques to suit specific situations. But in a sector that is becoming ever more globalized and service based, leaders would benefit from including a wider range of styles in their repertoire.
Summary

Selecting and developing high performing leaders is absolutely critical for engineering organizations if they are to adapt to the changing demands of their customers and the industry as a whole. Our experience shows that the best of them clearly define what successful leadership looks like in this sector.

They build a clear and consistent development process that blends technical competence with broader people focused and commercial capabilities. They start early, engaging and supporting their engineers from entry level upwards. And they identify in good time those individuals with the potential to succeed at the top. Integrating this approach with their organization’s wider talent and performance management, the best engineering companies are producing world-class leaders ready and able to deliver business strategy on a global scale.

Act now to secure your future leadership by asking yourself these key questions

- How well do you understand what makes a good leader in your organization?
- Do you recognise the differences between current performance and future potential?
- How consistent and reliable are the methods and measures you use to select your leaders—and where does the main focus lie?
- Do you identify potential leaders at an early stage in their career?
- Can you provide them with the development and support they need to succeed in a future leadership role?
- How well have you defined leadership career paths in your organization, making clear how the requirements for leaders differ from those of technical roles?
- Do you encourage your engineers to understand other roles and functions in your organization by, for example, rotating them across the business to broaden their perspective and experience?

Case study
Managing the high flyers

This engineering focused organization sought our help to grow their service based business. We worked with the company to define success in the selection and development of its leadership. We then evaluated its senior people against those specifications, using a range of methods including our Leadership Styles and Organizational Climate diagnostics. We have assessed nearly 1,000 of the company’s leaders, yielding valuable insight at individual, team and business levels, and including variables such as gender and market location. These results directly inform how the business manages its talent, helping it to achieve the right balance of engineering and leadership strength.
Korn Ferry Hay Group has more than 70 years’ experience in helping organizations and businesses—including the world’s leading engineering companies—to understand the people and processes required for their long term success.

Among our tailored services:

- future workforce analysis and planning
- workforce market and data analysis through our leading pay, employee survey and job databases
- employment proposition development, including engineering market comparison surveys
- career and talent framework development
- leadership development
- reward services.

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ABOUT KORN FERRY

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