

Interviews and Findings from Industry Leaders

Increasing R&D Productivity

Aligning Leadership to a New Business Model



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Executive Summary

Since the birth of the pharma industry, research and development (R&D) has been the most critical function. Modern players continue to focus on delivering scientific excellence, meeting unmet medical needs and driving state-of-the-art innovation. At the same time, the industry and its stakeholders have known for some time that the current model is broken.

Our recent research with industry leaders (The Case for Heterosis: Shareholder Value and Leadership Opportunity in the Healthcare Sector) ranked the lack of R&D productivity among their top concerns. This is not surprising, as no other industry has a 90% failure rate. As one global head of pharma research put it, "Our current success rates as an industry hover around 8%. If we could just get this to 10% -12%, it would have a major impact". As a follow-up, Russell Reynolds Associates conducted this newer study, which reveals the current industry perspective on the R&D leadership profiles required to progress the industry and to restore productivity.

Participants in our study place the focus on finding therapeutic solutions to unmet medical needs as the key pursuit of their company and the industry overall. They also largely agree on the causes of low R&D productivity. Where they differ is in how to address the challenge. The variations in approaches reflect the different dynamics of large and small companies and the culture of individual organisations. With no single blueprint for improving R&D productivity, having a leadership team that is aligned to the chosen strategy is paramount.

Our research shows that the current focus has shifted to driving medical innovation and economic value rather than, for example, speed to market. This implies that the structure of many organisations will need to change along with the profiles of R&D leaders.

Innovation and economic value—Companies will increasingly focus on unmet needs with new proprietary compounds, many initially in niche indications. They expect to foster an open innovation model and partner with academia and/or other companies in order to develop the best and most economically viable products. An increase in personalised therapies, the convergence of diagnosis and therapy through technology, and innovation of care are also expected.

In terms of the cost side of the equation, companies are looking at how to leverage targeting smaller subpopulations of patients and shorter trial programmes along with improving R&D operations and decision-making processes.

Leadership requirements—R&D organisations will strive for greater empowerment and less hierarchy through, for example, the creation of centres of excellence. Hiring from outside the healthcare industry may also increase, but the role of R&D leaders will in any case shift dramatically towards entrepreneurial drive and competitiveness.

"I think the most important potential leader combines scientific development and business skills. It is like creating 'business scientists', as I would call them—people who are very good at evaluating a science, making the right choices and doing so as a business leader", says a big pharma company chairman.

Strategies for Improving R&D Productivity

The shift in focus towards innovation and economic value across the biopharmaceutical industry introduces a significant degree of tension. Investment in time and money is essential; however, with the patent clock ticking, maximising the economic value is the underlying pressure on both time and money.

Companies, therefore, are focusing on first-in-class rather than best-in-class therapies. This is true despite the fact that the patent life of best-in-class therapies typically is longer given stakeholder resistance to use/endorse/reimburse products perceived to offer only marginal improvements over existing therapies.

Our research focuses on five levers related to R&D strategy and productivity: medical innovation; economic value; organisational model; leadership competencies; and source of talent.

1. Medical Innovation

Three closely integrated priorities emerged as key drivers of medical innovation today: true innovation; open innovation; and innovation of care.

True innovation. Large and small companies expect to focus on novel targets and new proprietary compounds. At first, these innovations might be pursued in niche indications or in small markets and, after initial success, be expanded to additional indications and markets.

Open innovation. Companies will continue the trend towards collaborating earlier and more intensely and will put in place more structure to support the involvement of multiple external stakeholders such as regulators, payers and patients as well as academic researchers and scientists from other companies.

There are two primary reasons behind this. First, sharing the rewards of success is seen as being more attractive than risking failure or regulatory rejection or losing against the competition. Large companies will leverage their capabilities in large-scale clinical development while making the “not invented here” syndrome a thing of the past in discovery research. Second, large companies need inventions from academia and small biotech to maintain their development engines and live up to the expectations of the market for increasing new drug output, revenue growth and profitability.

Innovation of care. Many companies will focus on personalised therapies and the convergence of diagnosis and therapy addressing medical needs through a differentiated approach that also drives changes in the way patients are treated.

2. Economic Value

In order to maximise the economic value of their assets, companies balance value creation and retention with speed to market. Participants in our study highlight three priorities:

Partnership model. Partnerships enrich the internal pipeline, but open innovation models are believed to speed up the R&D process. Collaborating earlier and more closely with key stakeholders is expected to prevent delays in approvals. In addition to working closely with regulators, companies expect that collaborating with external scientists will enhance the chances of successfully tackling technical hurdles in discovery and development that can't be easily resolved internally and that could delay progression of innovative therapies through the pipeline. Internal collaboration and coordination are also key. For example, a stronger connection between clinical and discovery research should lead to virtuous cycles in terms of productivity and speed/efficiency.

Process efficiency. The main focus is on improving the decision-making process in R&D. Although most are sceptical about the possibility of shortening late-stage development (e.g., there are limited possibilities for shortening a two-year Phase III study), companies are now looking for ways to optimise the decision making in discovery research and preclinical and clinical development so that decisions will be made faster and better.

- Faster in terms of “go/no-go” decisions about progressing programmes or not
- Better in terms of designing programmes to deliver results based on the newest scientific insights and optimal use of resources

Faster and better-quality decision making will be gained through empowering people lower in the hierarchy—those who hold the most current scientific expertise—and by bringing them together in multidisciplinary teams.

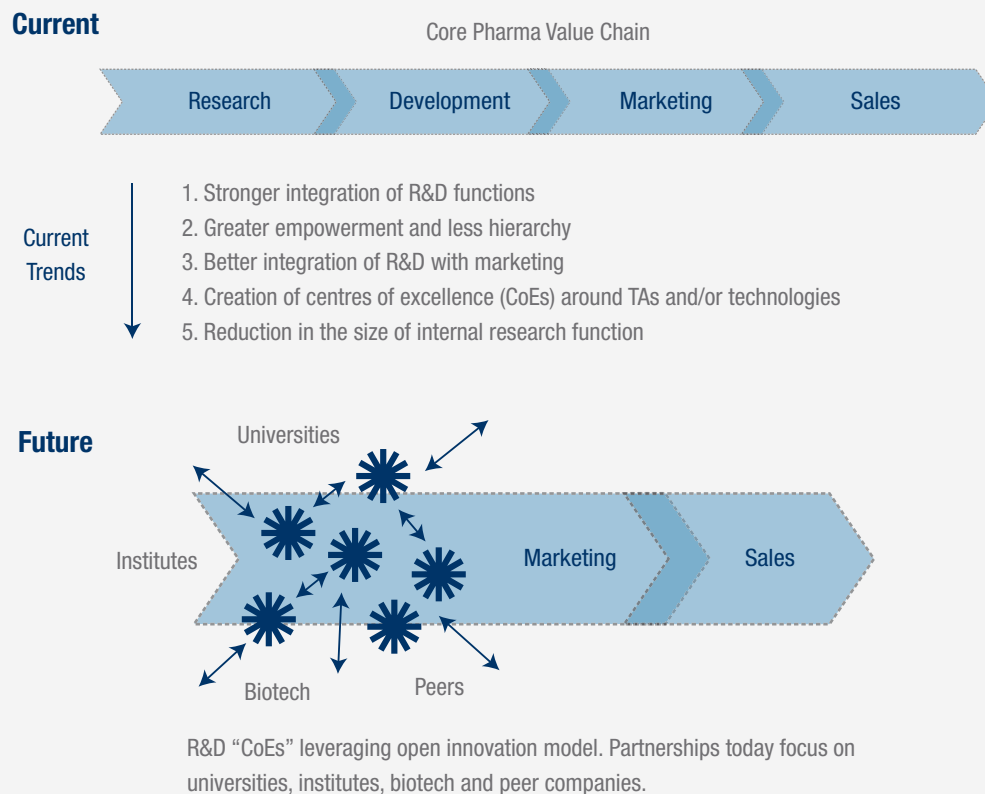
Targeted approach. Pharmacogenomics, biomarkers and adaptive study designs are being used increasingly to shorten the time between discovery and first approval. Moreover, such tools make it possible to demonstrate the value of therapies effective only in certain patient subpopulations. Thanks to such tools, the decision now can revolve around the targeted therapy, whereby in the past, the entire programme might have been stopped.

3. The Changing Organisational Model

To support these new strategies, companies are evolving their organisations. Respondents to our online survey indicate five main approaches (see Figure 1):

1. Stronger integration of the various functions within R&D
2. Greater empowerment and less hierarchy
3. Better integration of R&D with marketing
4. Creation of centres of excellence around therapeutic areas and/or technologies
5. Reduction in the size of the internal research function

Figure 1: The organisational model of the future is likely to include “R&D Centres of Excellence” that leverage an open innovation model.



Senior R&D leaders will focus more on integrating the various functions within R&D and managing the organisation’s resources and the overall portfolio of activities and will work less on reviewing individual programmes and scientific data. The major challenge will be to develop a leadership team to take charge of implementing organisational and cultural change, allowing for greater empowerment and a stronger external focus.

Many large companies intend to reduce the size of their internal research functions, but keeping a body of highly trained experts in the functional disciplines and therapeutic areas is key to the overall strategy. These nimble discovery functions still will work on their own inventions and programmes but also will evaluate external inventions that might be acquired for further development. Additionally, these functions will support preclinical and clinical development organisations with scientific insights needed to fully develop medical innovations.

If small companies choose to reduce the size of their internal research function, it usually is to focus resources on their core programmes in preclinical and clinical development. To emulate the success of small companies in discovery research, some large companies will organise their discovery organisation in “biotech-like” units, combining the core expertise around a technology. The managers of these units are empowered to decide the way forward by using shared resources elsewhere in the company or building external collaborations.

“In moving to a fully aligned, end-to-end strategy, we form effective biotech companies that work within our organisation. We form them around therapeutic areas, end to end—where we have the researchers and internal/external innovation plus development in the commercial dimension—all in one aligned organisation. This facilitates decision making and speed to market. Aligning them by therapeutic area makes it much simpler”, explains one industry leader.

In general, small biotech companies already are seen as centres of excellence. Their success is consistently attributed to an integrated way of working in which all leaders share objectives and deadlines, frequent meetings, and limited complexity and bureaucracy in the organisation.

4. “Business Scientists”

Senior R&D leaders, chief executive officers (CEOs) and other board members are expected to play a greater external role, representing the company with the authorities, with the public and within the industry by positioning the company as an attractive partner in open innovation. The perceived inability of the healthcare industry to offer significant innovations to society over the last decade has done little for its already tarnished reputation among the general public. If this perception is wrong, it is up to industry leaders to correct it.

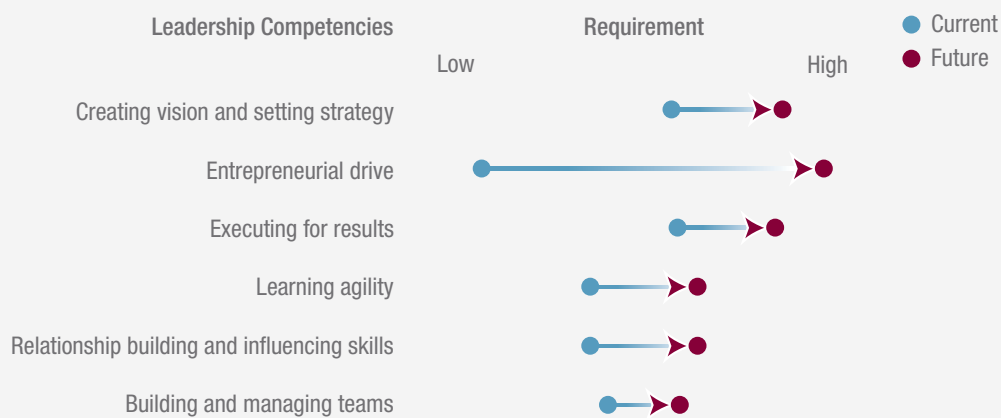
“I think, as an industry, we could do a better job of representing ourselves to the regulatory authorities in a way that doesn't always start with ‘They're wrong’ or ‘We're wrong’. We need more ‘Let's have a discussion; here are some of the things we're thinking about. What are you thinking about? Let's try to do this in an amicable way, focusing on what's best for the patient and for society’ ”, says a global head of pharma research.

Our findings on innovation, economic value and the organisational model informed our conversations with CEOs about the required experience, knowledge and skills for R&D leadership. Our participants see three main changes taking place:

1. Current R&D leaders will need to adapt and expand their skills to lead an evolutionary transition to the new R&D model.
2. Some current R&D leaders will be replaced by others offering greater business acumen based on cross-functional career development.
3. Companies will build stronger differentiation between scientific leadership and operational leadership in top appointments. This will be tied more closely to career planning, with talented individuals required to choose scientific or operational leadership goals at an earlier stage in their career.

There is widespread agreement among participants that R&D leaders need to improve their leadership competencies; specifically: entrepreneurial drive and competitiveness, ability to create vision and set strategy, and competency in executing for results (see Figure 2).

Figure 2: The largest competency gaps are related to entrepreneurial drive, creating vision and strategy, and executing for business results.



Opinions vary on the extent to which current leaders can, or might be willing to, change their approach to leadership and develop new competencies. Those leaders who have a true general management profile are expected to be more successful. This is rooted in the idea that successful leadership in the function will be driven primarily by the ability to make the right judgement. “Virtually all compounds that have been successful in the industry to date have had major challenges along the way. R&D leaders need to be able to recognise the right projects, people and collaborative models that will lead to the right decisions”, says one big pharma research leader.

Some participants believe that leaders who do not have a background rooted in R&D will lack the in-depth knowledge to lead an R&D engine to success. Those most vociferous on the lack of R&D productivity blame it on the tendency of pharma leaders to pay more attention to the commercial parts of the business rather than to core R&D activities. They point to the fact that most CEOs of pharmaceutical companies have a track record in marketing and sales rather than in R&D. The issue here is that these leaders measure R&D spending as a cost, captured as a percentage of total sales, rather than measuring revenue as a return on R&D investment.

Participants from large companies believe that their heads of R&D need to become better team leaders; they need to instil greater collaboration in getting therapies to market efficiently and competitively and demonstrate a long-term commercial focus on meeting the needs of patients in a profitable way.

“I think there’s a fundamental shift in our talent needs. We are looking for people who are scientifically excellent—superior scientists but also superior collaborators. I think the generation coming up is learning this through a lot of the academic collaborations that are getting started in key universities. Technology also has created a generation used to and motivated by sharing”, says a company group chairman.

Participants from small companies see a need for R&D heads to be more entrepreneurial in leveraging internal expertise and resources—augmenting these with externally acquired services and advice. They need to guide their company from one milestone to the next in order to maximise value in the pipeline and throughout the enterprise.

“You don’t get innovation by clamping down and micromanaging. You get innovation by putting the right scientific and leadership expertise in charge and then providing them with support and giving them the freedom to create”, says the human resources (HR) head of a big pharma company.

Overall, the optimal profile for R&D leaders in any company is determined by the specific strategy and organisational model the company selects and the culture it wishes to build.

“The way I see it, the role of R&D is to boost our commercial colleagues’ confidence and enable accurate estimates about economic value of our ideas in order to inform the right strategic decisions for the company. In this context, the key success factor for R&D leaders is ‘judgement’”, says one global head of research of a leading pharma company.

5. Rebuilding the Talent Pipeline

Upgrading the competencies of current R&D leaders may be insufficient to address new challenges, implying external hiring may need to increase. It is far from clear, however, where these new leaders will come from.

A majority of respondents think that new leaders will be found from competing companies within the healthcare industry, and a third of respondents believe that recruiting from outside the healthcare industry will increase. However, most CEOs believe that R&D in the pharmaceutical industry is too specialised to be driven by R&D leaders from other industries.

With more highly developed entrepreneurial competencies seen as critical for the future leaders of R&D in big pharma, small biotechs started by such leaders are seen as a possible source of talent. However, they may have other competency weaknesses, such as the lack of high-level leadership skills required for the governance and steering of a large R&D organisation. They also will need to balance diverse capabilities ranging from the creativity in discovery with the rigours of late-stage clinical development. In terms of what is good for the industry, it is not necessarily an answer to move successful leaders away from small companies.

If new leadership can’t be found elsewhere, the remaining solution is to grow new leaders internally. This implies a critical review of the traditional career path in R&D, which currently hinges on becoming a manager as a result of being a successful “drug hunter” rather than clear demonstration of management skills. The future may well include more specific “tracks” that allow organisations to keep talent focused on what they do best but also offer them a meaningful development path—e.g., a scientific/technical career ladder versus a scientific project/people management career ladder.

Companies that acknowledge the need for change recognise the value of their internal talent and put in place a fast and effective grooming process. Small companies will be among the early winners because their leaders are thrown in at the deep end: They either will learn to swim very quickly and keep the company afloat or will fail to create value. For large companies, an integrated and proactive HR function is critical, together with a mindset whereby HR leaders work with line managers to take ownership for identifying and growing the right kind(s) of talent.

Conclusion

A new R&D model has started to take shape, and participants in this research are optimistic that it will improve the industry's performance. The current economic climate may be a modifying factor, but it is not a primary driver of the changes already taking place.

In fact, the industry is refocusing on its original charter, bringing innovative treatment to the world. Companies will leverage new technologies in R&D and developments in the market as much as the healthcare system will allow, but healthcare companies will not fundamentally change the delivery of care. That is seen as a broader task to be addressed by all the industry's stakeholders (e.g., care providers, payers, regulators, governments, etc.).

The current lack of R&D productivity will not be sufficiently addressed by focusing on new strategies and organisational models alone. As an industry rooted in innovation, pharma companies today must ensure they have the right R&D leaders in place or at least in development.

"One of the main challenges here is that scientific positions only go up to the vice president level. People associate bigger rewards with managing large teams so scientific geniuses end up striving for leadership roles. We need to retain their scientific capabilities and reward them with different mechanisms and more appropriate HR policies. Then we can complement their skills with commercially focused R&D leaders who are experts in managing process and budgets", says the head of global development and chief medical officer in a leading pharma company.

Appendix

This study was conducted with senior executives to explore their views on how to increase R&D productivity in three critical areas:

- What are the strategic choices they are making to increase the output of R&D teams?
- What are the consequences of these choices on the structure of R&D capabilities?
- What are the implications of different structures on leadership profiles for the near future?

Our research was conducted in two stages: first, an online survey captures the latest thinking among senior executives engaged in R&D productivity issues¹; and, second, a series of in-depth interviews with CEOs and heads of R&D and HR of pharma companies explores the themes coming out of the online study.

- Nearly 120 senior executives in global pharma and biotech companies took part in the online survey.
- Nearly one-half (45%) are CEOs, chairmen or board directors.
- Nearly one-third (28%) are heads of R&D, heads of research or heads of development.
- The remaining executives are heads of HR, science and technology, marketing, business development or regulatory affairs.

We respect the request for anonymity from the CEOs, chairmen and HR directors who generously shared their opinions during private discussions on the findings from our online research.

¹ *The results of the online survey are available separately via www.russellreynolds.com.*

We would like to thank all those who kindly took part in one or both stages of this research. Their views demonstrate the value of collaborative thinking in shaping the leadership profiles required to boost R&D productivity.

In-depth discussions were conducted by the Russell Reynolds Associates global healthcare team. The online research was run in collaboration with business consultancy Lighthouse Global (www.lighthouseglobal.eu.com).

A Strategic Approach to Today's Leadership Challenges

The leadership challenges faced by today's CEOs, boards and senior leaders do not occur in isolation, and cannot be addressed that way. Russell Reynolds Associates' consultative approach to executive and board-level search and assessment provides leaders with tailored strategies that help drive long-term growth and success.



About Russell Reynolds Associates

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