Executive Insights

Volume XIX, Issue 43

How Technology Can Help Pharma Companies and Clinical Trial Outsourcers to Win

The use of technology to increase efficiency and enhance quality is transforming the pharma sector. Developers and service providers have an opportunity to change the pharma R&D experience at a time when all parties are looking to increase productivity and make savings.

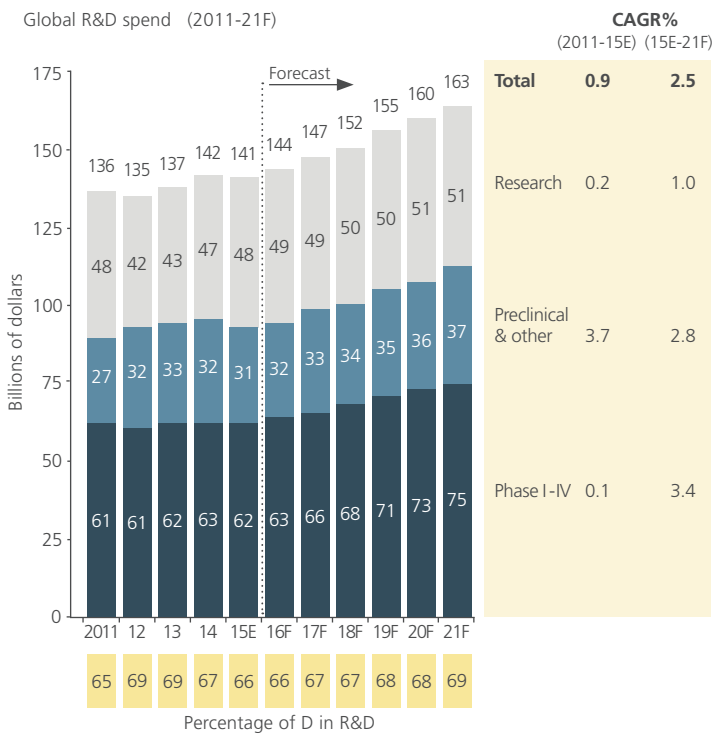
Across the globe, governments and healthcare providers are experiencing growing pressure on resources and the pricing of new medicines is a prime target for savings. In response, the pharma industry is looking for new efficiencies in one of the more costly areas — R&D and new medicines development.

The industry as a whole invests around $150bn on R&D annually — a figure that has been increasing each year, and the cost of clinical trials represents the bulk of this figure (see Figure 1).

In the search for savings, the industry has explored several options to increase process efficiency and trial effectiveness, particularly targeting high cost, late-stage failures.

One approach has been to move fixed costs to third party providers and thereby access a broader and deeper body of experience than most pharma company sponsors have in-house. The effect of this

Figure 1
Global pharmaceutical R&D expenditure



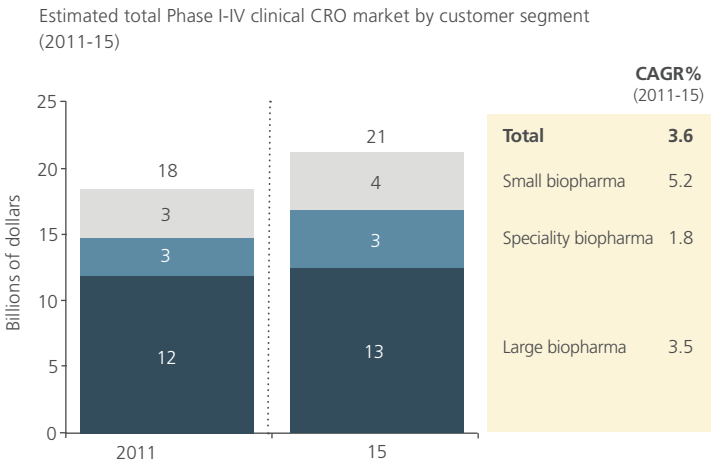
Source: EvaluatePharma; L.E.K. analysis

How Technology Can Help Pharma Companies and Clinical Trial Outsourcers to Win was written by **Ben Faircloth**, a Partner and **Andre Valente**, a Manager in L.E.K. Consulting's Healthcare Services practice. Ben and Andre are based in London.

For more information, please contact **healthcare@lek.com**.

L.E.K. INSIGHTS@WORK

Figure 2
Pharma spending on clinical CROs



Source: Market Reports; Broker Reports; L.E.K. analysis

trend can be seen in spending on pharma service providers, notably Contract Research Organizations (CROs), which has been increasing in recent years and is expected to continue (see Figure 2).

To drive the next phase of efficiency, pharma companies and their trial service providers need to identify and deliver new ways of working. In most other industries, technology-led change, such as enterprise resource planning and data management, has helped to reduce costs and change business models. The deployment of technology is now increasingly influential in pharmaceutical R&D, and underpins a number of new and differentiated service offerings.

Enhancements in data management and data integration are providing improvements to both the speed and quality of many clinical trial processes, enabling the creation of a high quality audit trail (time stamping, completeness checking, sourcing etc.) and integrating data from multiple sources with relative ease. Technology also allows users to search, interrogate and analyse data in real time from multiple locations, supporting dynamic changes in trial protocols / endpoints and giving real time visibility of programme progress, while also enabling the storage of large data sets for extended periods of time at limited incremental cost.

Historically, the pharma industry, its providers and its regulators, have been slow to adopt new technologies. Given the highly regulated nature of new medicines development and approval, decision makers can show understandable conservatism in changing processes. Equally, many pharmas and CROs have legacy systems that were not designed to integrate or share data with other systems.

However, this conservatism is changing, driven by a number of factors, including:

- an increasingly competitive market and the need to offer lower cost solutions
- the growing need for trials conducted in multiple regions / countries, and managing the complexity this creates
- the increasing complexity of the regulatory environment and compliance
- successful pilots demonstrating value-for-money from the use of technology
- greater acceptance of the use of technology in trials by regulators
- similarly growing acceptance of, and comfort with, the use of technology among clinicians, patients, nurses, etc.
- increasing maturity of the technology supply side, which can now demonstrate a solid track-record of delivering results

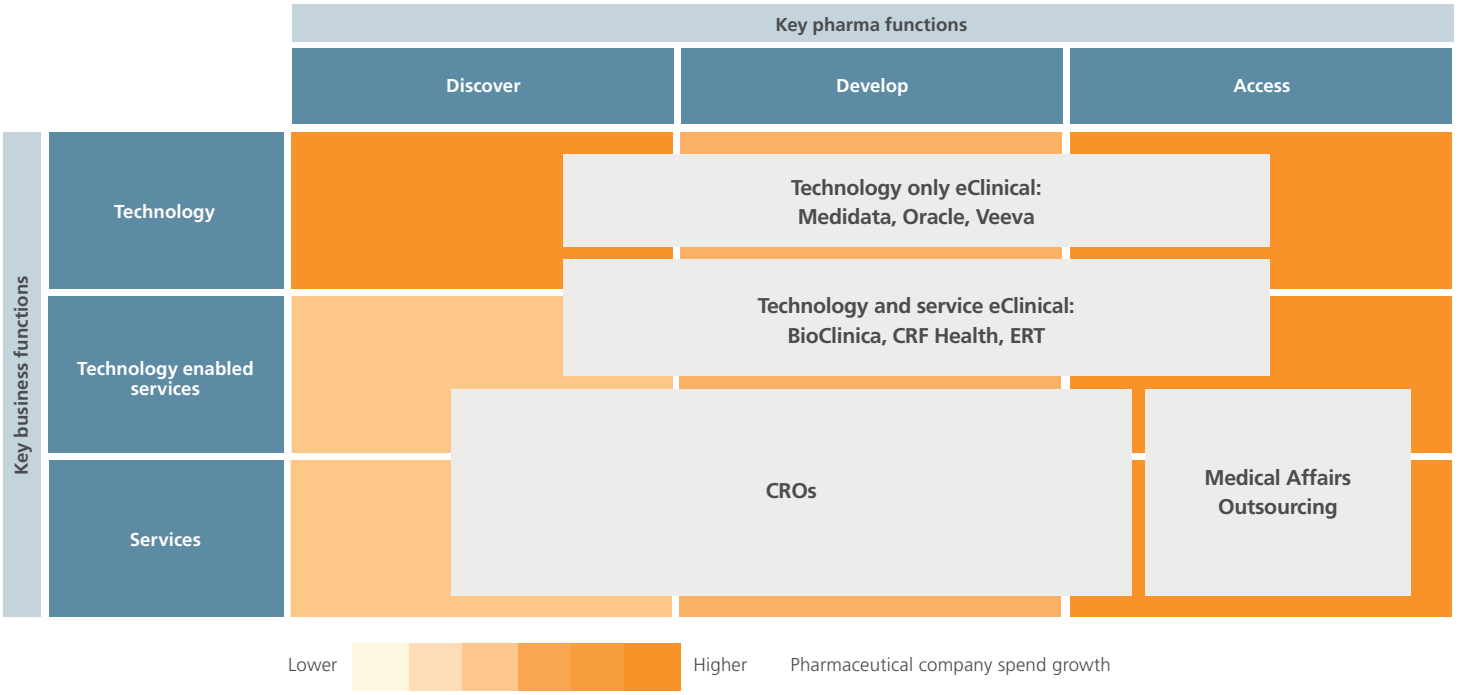
Re-shaping the industry

This greater comfort with technology and the growing importance of market access due to increased regulatory and payor complexity are supporting incremental investment by pharma companies to accelerate speed to market.

Pharma services providers have largely taken one of two approaches to drive the adoption of technology-enabled solutions: focusing on delivering a technology / software solution, or delivering a technology-enabled service offering (see Figure 3).

Companies like Medidata Solutions, Oracle and Veeva Systems are developing and providing new software systems and offering tech-enabled propositions across the pharma R&D value chain which seek to improve compliance processes and efficiency. They report to be building strong customer bases across the industry, from leading global pharma organisations through to smaller biotechs.

Figure 3
Trends in tech-enabled service providers



Source: L.E.K. analysis

A second group of providers, examples of which include Bioclinica, CRF Health and ERT, have evolved a different approach — providing an expertise-led, software-enabled set of services. These propositions support the clinical trial process by leveraging deep expertise in specific aspects of the process and combining this with highly functional technology. Services cover needs across the entire trial experience from design through to patient engagement, site selection and ongoing management of data and analysis.

Devising a differentiated, technology-enabled proposition

While both models offer benefits, no single provider can address the many different challenges of every organisation. Some customers will value an enterprise-wide, software-led model that integrates across departments and functions. There are also many pharmas, biotechs and CROs that require scientific expertise, service support and deep software functionality for specific applications and activities in their value chain.

Technology is making a material difference to both the cost efficiency and the effectiveness of the clinical trials process, but the landscape is complicated and crowded. Building the best solution will require expertise to assess the most appropriate platforms and partners.

The opportunities provided by technology mean that pharma companies need to review how they will adapt their operating models to capitalise on advances and differentiate themselves from competitors, by:

- leveraging capabilities of innovative third parties who can deliver fully integrated solutions
- acquiring best-of-breed technologies which solve particular problems and pain points very effectively, or
- developing new technology in-house (likely only an option open to the largest pharma companies)

For pharma service providers there are two main approaches to developing a competitive response and driving differentiation:

- augment an existing offering by partnering with those that already have tech-enabled services. This will require finding ways to streamline their interaction with such partnerships (e.g. aligned processes, white-label branding, etc.)
- invest in their own new technology and migrate services into a technology-enabled proposition

Pharma company sponsors need to access the benefits that technology can provide in solving reseach, development and access challenges. Pharma services companies are supporting this by investing in new solutions to drive differentiation in an increasingly competitive market. Market participants that do not embrace the advantages offered by technology run the risk of seeing their share eroded as competitors identify and deliver a new level of benefits to their customers.

About the Authors:

Ben Faircloth is a Partner in the London office and Head of the European Healthcare team. He is also a member of the Biopharmaceuticals & Life Sciences team. He has more than 14 years of consulting experience, encompassing a variety of disciplines including strategic planning, market entry strategies, and transaction due diligence. Ben has a Modern Languages degree from Oxford University and an MBA from London Business School.

Andre Valente is a Senior Manager in the London Office. He is a member of the Healthcare practice and the Biopharmaceuticals & Life Sciences practice. Andre has managed multiple projects within pharma services, providing commercial and strategic support to clients on a wide range of transactions. Andre holds a degree in Economics from the University of Porto and an MBA from INSEAD.