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**Ann Baker**

is a Partner in Accenture's Health & Life Sciences industry group and is based in London. Ann began to specialise in the pharmaceutical industry in 1992 and has worked in the USA, the Middle East and throughout Europe. She specialises in business unit strategy formulation, innovation and R&D effectiveness, business development/licensing, portfolio management, and organisation design and performance management.

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Ann Baker  
Partner, Accenture,  
Health and Life Sciences Industry  
Group,  
60 Queen Victoria Street,  
London EC4N 4TW, UK

Tel: +44 (0) 207 8444 587  
E-mail: ann.baker@accenture.com

## Opinion piece

# Biotechnology's growth—innovation paradox and the new model for success

Ann Baker

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### Abstract

Biotechnology companies are increasingly challenging traditional pharmaceutical companies as the discoverers, developers and marketers of drugs. The biotechnology sector, however, is facing a paradox. The sector's strength has been based on companies' innovation abilities while the sector's future success will depend on growth. The traditional pharmaceutical business model, however, may not be the best for biotechnology companies to emulate. Instead, biotechnology companies may be better served by transforming themselves into product-driven companies with a centre of innovation and a network of third parties or capability providers that can supply elements such as development, manufacturing and sales.

The biotechnology industry has definitely changed the face of pharmaceutical innovation. In fact, biotechnology companies now account for 7 of the top 25 pharmaceutical companies by market capitalisation.

In addition, research shows that biotechnology companies are increasingly challenging traditional pharmaceutical companies as the discoverers, developers and even marketers of drugs. In drug discovery, biotechnology companies are responsible for an increasing number of new molecular entities (NMEs), while in drug development a considerable number of biotechnology companies are running their own clinical trials. Biotechnology companies are also playing a more active part in commercialising their innovations and market 9 of the top 20 biggest selling biotechnology drugs.

Today, however, the biotechnology sector is facing a paradox. Traditionally, the strength of the sector has been based on the ability of companies to innovate while the future success of the sector will be based on the ability of companies to

grow. Innovation and increasing size, however, do not always go hand in hand. In fact, in recent Accenture research almost 50 per cent of pharmaceutical and biotechnology executives believe that biotechnology companies become less innovative as they grow. An even larger number – 72 per cent – believe that the traditional pharmaceutical operating model may not be the best one for biotechnology companies to emulate.

So what options do biotechnology companies have if they need to grow but must remain nimble and flexible? One option, which is highly favoured by the investment community, is for biotechnology companies that are heavily dependent on revenues generated by technology platforms to move beyond that dependence and transform themselves into product-driven companies.

For companies that choose to become product-driven, the winners will be those that can distinguish themselves from the crowd at the earliest possible stage and grow without sacrificing the very things at which they are best. The price of entry

## Fostering innovation fuels continued growth

will be minimising operational inefficiencies so the bulk of resources can go into discovery, development and marketing.

With a focus on operational efficiency, there are four areas a biotechnology company must address and excel in to win. First, a successful biotechnology company has to be able to demonstrate the capability to deliver repeat innovation. Only a company that can foster innovation time and time again can fuel continued growth. Second, the company must generate value early and quickly by bringing products to market rapidly enough to generate revenues to fund further discovery and development. This continuous pipeline is the lifeline of the company. Third, instead of focusing all or most of the company's resources on a 'sure bet', the winners are going to develop multiple products, spread their exposure and risk and exploit small and mid-market products opportunities that the large pharmaceutical companies ignore. And last, the company has to do an exceptional job at communicating with investors and managing their expectations. Investors must understand the company's approach to turning innovation into revenue.

But what would this nimble, product-driven biotechnology company look like? To truly enable innovation, flexibility and rapid delivery of value, the model would have two main elements:

- an innovation centre;
- a capability network.

The innovation centre, embedded within the discovery process (ie R&D), would be separate from other activities associated with bringing products to market, in order to enable it to focus on fostering and delivering continued innovation to drive growth. In addition to its internal activities, the innovation centre would proactively identify new technologies outside the parent company and apply

them to increase the speed, effectiveness and efficiency of the discovery process.

The capability network is the second element of the proposed operating model for biotechnology companies. In this network, third parties (capability providers) supply the elements of the pharmaceutical value delivery chain such as development and manufacturing and sales.

Lean, in-house 'coordinating' departments staffed by experienced personnel manage the capability providers. These departments are expert in strategy development and implementation, alliance and contract management. They are responsible for planning and forecasting future demand and anticipating potential bottlenecks.

Combined, the two elements of the proposed model can allow biotechnology companies to gain rapid access to the capabilities required to bring products to market while retaining key attributes of innovation, scientific excellence, entrepreneurial spirit and flexibility. By adopting this model, biotechnology companies will be better able to foster repeat innovation and enhance operational efficiencies.

Accenture research shows that 71 per cent of pharmaceutical and biotechnology executives believe this operating model could be a success. And, 72 per cent of biotechnology executives believe their company would consider adopting the model.

Biotechnology companies adopting the proposed operating model will need to focus on four core competencies in order to deliver the benefits of innovation, speed and flexibility:

- **Fostering and capturing innovation.** Companies will need strong skills in the identification and internalisation of critical external innovations.
- **Portfolio management.** Companies will need to be adept in picking winning products very early in the drug

## Increase the speed and effectiveness of the discovery process through new technologies

development process. They also must become expert in deciding which aspects of their business to outsource to other companies, which to divest and which to take to market on their own. These portfolio assessments must include evaluating capabilities and resources available in-house.

- **Alliance management.** Companies must be astute in how they broker deals. They must pay particular attention to the way these deals are structured, ie whether capabilities are accessed from the capability network on a transactional fee for service basis or whether they are offered in return for a proportion of the value of the product once it reaches the marketplace.
- **Investor relations.** Given that the proposed operating model breaks with the traditional approach, biotechnology companies will need to ensure that they thoroughly communicate the model's benefits to investors, and explain how it assists them in evolving rapidly to become product-driven companies.

Adopting this model is likely to have a significant impact on the relationship between biotechnology companies and traditional pharmaceutical companies. In fact, 68 per cent of executives responding to the Accenture survey believe it will place biotechnology companies in a more dominant position. Biotechnology companies will be able to preserve and foster their ability to innovate while gaining rapid access to the capabilities needed to deliver innovation to the market.

Traditional pharmaceutical companies will face a number of challenges, the most

serious of which would be a reduction in access to innovative targets and drug candidates as biotechnology companies choose to develop their own innovations, utilising the capability network or partnering with other biotechnology companies. In addition, biotechnology companies who adopt such an operating model have the potential to emerge as nimble competitors, unencumbered by legacy organisational structures and a high fixed-cost base.

In such a scenario, traditional pharmaceutical companies may need to structure different types of deals with biotechnology companies. They may need to offer access to capacity in their own value chains in return for targets, drug candidates and discovery technologies. Companies that have invested heavily in drug development and commercialisation capabilities will have the opportunity to generate additional revenues by offering 'outsourced' services to biotechnology companies through the capability network. They may also find increased opportunities to link resources and capabilities with other groups, thereby sharing costs and skills.

While biotechnology companies today face a growth-innovation paradox, being open to exploring and creating a new operating model could turn that paradox into a profitable opportunity. The broader vision for the pharmaceutical and biotechnology industry includes those companies able to 'virtualise' their organisations. The leaders will be those who use the new model to focus on core activities that allow them to grow while keeping the flexible, innovative spirit that first made them successful.

**Investors must understand the biotech model and its benefits**

**Biotechnology leaders must be able to 'virtualise' their organisations**