

Disruptive technology

The importance of the disease-centric view in managing change

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The term 'disruptive technology' is used to describe technology developments that undermine or radically change the way a process or business operates. Disruptive technology can strike fear into all but those bringing the new technology to market, but it can also 'unlock' previously inaccessible opportunities. Business needs to know what's on – and over – the horizon so it can plan a strategy for disruptive technology, and capitalise on the changes about to come.

Determining the nature and impact of future disruptive technologies is highly challenging, and no more so than in the medical field. Intense research continuously leads to new products and processes in the diagnosis, management and treatment of disease; such relentless discovery leaves business confused and often unable to clearly determine the impact

new technologies could potentially have. A disease-centric analysis, however, can produce an insightful and comprehensive picture of the opportunities and threats that will emerge – a view impossible to achieve by focusing on products alone.

Disease-centric methodology

At Sagentia, we have undertaken disruptive

technology analyses for a number of medical clients, and as a result have developed a disease-focused methodology that yields valuable results. Our approach is based on a detailed understanding of the 'care pathway' – a profile of the disease and how it is currently managed. An overview of the existing standard of care is central in determining where sub-optimal approaches to disease management lie. This is vital, because it is these shortcomings that can trigger change, and from which we can then extrapolate a range of future technology scenarios, each of which has the potential to become a new standard of care.

As part of the process, it's also important to analyse the impact of technologies emerging at stages of the pathway distant to the client's own area of expertise. Improvements in imaging technologies have led to improvements in breast cancer screening for example, leading to earlier detection and a reduced need for radical surgery. Immunisation is a further example, as this may virtually eradicate a disease for which expensive treatments exist. And what actual impact will groundbreaking research in stem cell therapy or nano-technology have?

Many medical companies work within very specialised markets – future developments in areas of which they know very little are even harder to predict and understand.

However, it's also important to understand that disruptive technologies can open doors as well as close them. For example, new drug treatment options may be limited by a lack of appropriate delivery devices – medical device companies need to be aware of such future opportunities and prepare to develop their own 'unlocking' technologies in response.

Extensive scouting

To give our clients the best possible view, we undertake extensive scouting to find technologies that could bring about changes in the management of a disease. Sagentia consultants with expertise in areas such as pharmaceuticals, sensors, medical devices and engineering are brought into the research project in order to extend the perspective on the future. This then leads to repeated rounds of scenario development and technology searching, resulting in a defined set of potential changes that are both technically feasible and which meet a clear clinical need.

Numerous technology solutions are likely to exist for each scenario, and these are then individually assessed to determine development timescales and even the likelihood of their realisation. This exercise can be as broad as possible, in order to identify all potential technology changes, or constrained within strict parameters, for example to determine the potential impact on a specific business area.

Clear picture

The objective is to deliver a clear picture of all relevant technology-driven changes that could alter the management of a disease, identifying where they reside in the care pathway and the timescale within which each change is likely to occur. Further analysis will also reveal the impact future scenarios may have on each other, and also identify those that are complementary. This level of analysis is of particular importance for organisations considering investment in a new business area, as the first changes will not necessarily be the most commercially successful or will even be sustainable in the longer term. This approach can also determine whether existing investments in a portfolio are wisely spread, or if current or proposed R&D spend is appropriate.

Gaining a broad and unblinkered view of the future impact of technology is a powerful springboard from which long term strategic decisions can be made. Whilst disruption can come from many directions, we aim to deliver a balanced view of technology changes, thereby enabling our clients to maintain and grow their business now and in the future.

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