# The More, The Merrier

**The need for innovation is prevalent everywhere, and pharma is no exception. With a growing focus on the patient in the form of personalised medicine and services – rather than products – big data plays an important role in harnessing the information necessary for such a shift**

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The pharmaceutical industry is facing a number of challenges today. At every turn, there is demand for greater efficiency and innovation. The traditional pressures of emerging markets, diminishing pipelines and patent cliffs are considered normal nowadays, and are no longer treated with the same level of concern. The focus now is to develop a biological portfolio pipeline and an efficient strategy that can compete in the face of generics, consumerisation, industry standardisation and compliance pressures.

In the early 2000s, pharma companies collaborated with external vendors and reaped the benefits of cost rationalisation. Today, partially fuelled by the commercial pressures created by the global recession of recent years, the industry is focusing more on innovation across the value chain as well as at an operational level.

The need for innovation is leading businesses to leverage the data they hold and have access to, and this applies across the board. Coupled with the recognition that health trusts and patients are now the central cog in the pharma wheel – a place traditionally held by products – the impetus is now to differentiate through data.

## Here to Stay

The pharma and life sciences sector today is inundated with information, and firms are now looking for ways to use analytics so they can ensure that they are able to transform this data into valuable insights.

The data generated could be internal or from other external sources, such as public databases, market research companies or other payers and providers. But it is not just traditional forms of data usually associated with the pharma industry. The greater emphasis that is being placed on the end user – the patient – means that more and more pharma businesses are turning to data not previously used in drug development; namely, the huge amounts of information made available through social media.

Online social networks, as well as electronic medical records, offer up a huge repository of real world patient data that can then be analysed alongside traditional pharma data. With the right input, analytics are able to provide valuable information for improving and customising drug development and services, identifying undiagnosed patients, predicting hospital readmissions and other medical forecasting.

It also offers the ability to home in on health outcomes and comparative effectiveness – referral patterns, drug switches, off-label use, as well as disease trends and locations can be understood better through the efficient harnessing of data from social media. In fact, Gartner has predicted that by 2017, data discovery tools will incorporate smart data discovery capabilities that will enhance sophisticated interactive analysis and business insights (1).

The bottom line for pharma companies to understand is that big data is here to stay, and the generation of data-driven insights has moved from being viewed as a competitive advantage to being the lifeline of the industry.

## Consumerisation and Personalisation

As well as an explosion of data, the impact of consumerisation and personalisation is being felt across a number of industries today – most notably in retail, where stores are competing for the attention of consumers. The same scenario cannot be seen in the pharma industry; however, the growing trend of consumerisation is a force that requires organisations to wake up and focus on the individual user of the drug or service, not just the generalised audience as was the case previously.

To succeed in this new consumer-orientated world, pharma and life sciences companies must identify consumer segments critical to their product offerings, and leverage big data analytics across all areas of the value and development chain – two of the most common are currently within the manufacture and supply of products, and in the development of products.

## Big Data for Development

There is a growing pressure on the pharma industry to provide better drugs more efficiently and at a lower price.


It is therefore fortunate that big data analysis can go some way towards enabling this.

With big data analysis at a clinical R&D level, a whole range of possibilities are opened up. For example, predictive modelling becomes much more sophisticated and extensive with big data analytics, and it can also reduce drug development times as it helps to identify new potential candidate molecules with a higher probability of success.

Similarly, by leveraging social media and patient data, suitable individuals to enrol in clinical trials can be identified more easily, and the selection process can be more detailed as more factors can be taken into account – thereby enabling trials that are smaller, shorter and less expensive, but more effective.

## Manufacturing and Supply Chain

Another area that pharma companies are focusing on is the manufacturing and supply chain. Compliance has emerged as one of the biggest concerns in pharmaceutical manufacturing. In an industry with significant challenges already, government-imposed regulation presents more hoops to jump through.

To handle compliance effectively, a two-pronged approach is required that, among other aspects, utilises smarter data analytics. But where does this information to be analysed come from? The answer is: across the manufacturing and supply chain within the organisation.

Manufacturing operations generate a massive amount of information and similarly, with the application of the Internet of Things and installation of sensors, the supply chain can also produce a great deal of data. The information generated can then be analysed and used in two ways. Firstly, it can be aggregated with data from across other areas of the organisation to produce evidence that demonstrates compliance to rules and regulations. Secondly, it can actually be fed back in to the business to add value. For example, insights drawn from the data can improve factory yield, reduce the rate of returns, compress cycle times and lower the costs of machinery diagnosis and repair.

## Listen to your Customer

There is no dearth of data in the pharma and life sciences industry, but it is how that information is used that is the issue. Companies must create a more patient-centric industry that listens to and provides the drugs that individuals need and can fit in with their lifestyle. By transforming data into valuable insights across the entire pharma business, organisations can begin to progress down this road.

**Reference**

1. Visit: www.gartner.com/newsroom/id/2970917

### *About the author*

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