



POWER SHIFT

Economic downturn, patent expirations and a lack of new product pipelines are just some of the challenges facing pharma. Rüdiger Dorn, managing director, Worldwide Life Sciences, Microsoft Corporation, examines the knock-on effects for business and what can be done to overcome the difficult times ahead.

Contributor profile



Rüdiger Dorn is managing director of the Worldwide Life Sciences Industry Group as part of Microsoft Corporation. In this role, he is responsible for developing and implementing Microsoft global strategy including the prioritisation of industry solutions and their alignment with the Microsoft partner, regional and local ecosystem.

The pharmaceutical industry is facing difficult times due to patent expirations and the lack of new product pipelines. This trend is likely to be aggravated by the general downturn of the economy. As a result, the pressure to cut costs will increase and operational efficiency and cost savings in information technology (IT) will move higher up in the priority list of pharma CEOs and CIOs. Adding to these challenges is the pressure on governments to further cut healthcare costs – particularly in the US where the Obama administration has indicated it intends to open the market to more generics and imports. An estimated \$62 billion of 2006 sales will be lost to generics in the US by 2011.

Seven powerful business trends are driving the transformation of the pharmaceutical industry. By addressing these trends successfully, the industry can better respond to challenges.

Trend 1: demographics changes. The industries involved in pharmaceuticals are being reshaped by the population shift towards the elderly, emerging global economies and economic activities that bring fast-spreading diseases, and the need to develop new and different ways to reach payers, providers and consumers globally. As organisations continue to disintegrate and integrate, and with the opening of global markets for sales, manufacturing and clinical trials, these organisations must ensure that they have the flexibility to leverage and diverge with minimal switching costs. Manufacturers must be prepared to manage an increasingly diverse and extended community of information workers. Access to basic research is critical as the tectonic shift in information workers continues from West to East. Fewer doctorates are being granted in the West and, as a

SEVEN GLOBAL TRENDS SHAPING PHARMA

- Changing demographics
- Health cost containment
- Just-in-time medicine
- Advances in science and technology
- Regulatory pressure
- Global markets
- Value chain disintegration

result, the brain trust with respect to basic research is shifting to India and Asia.

Trend 2: Health cost containment. Rising costs and increases in competition and regulation have created challenges throughout healthcare. Pressure to reduce costs is being exerted by consumers, payers and governments. Closer scrutiny of provider and manufacturer costs and profits is leading to aggressive cost controls.

Medical clinicians and administrators strive to deliver high-quality, cost-efficient care, while juggling demands from government regulators, health insurers, colleagues and patients. Health plans are under pressure to improve their members' health, quality of care and the customer experience, while controlling rising medical costs. Pharma is being pinched by higher R&D costs and more stringent regulations.

Trend 3: Just-in-time (JiT) medicine. JiT medicine is being driven by consumer demand for better and more personalised fitness and wellness programmes, and by payers' increasing interest in preventative care. The JiT case study (page 43) demonstrates potential benefits when preventative medicine and new product development are combined.

Trend 4: Advances in science and technology. Science and technology are being applied to deliver a personalised medical experience (see Science and technology case study, page 43). To succeed in the digital world, healthcare providers and pharma manufacturers need to actively observe and serve patient demands, focus on new techniques and technologies to directly interact with patients, and deploy new business models that focus on services that complement product delivery to provide complete, personalised patient experiences.

Trend 5: Regulatory pressure.

This includes aggressive regulation in the key areas of supply chain, sales and approvals, including the need for accelerated approval for targeted treatments. Pharma must get important drugs to market faster, under the scrutiny of watchdog groups concerned about authenticity and safety, and established to provide factory-to-consumer protection. Transparency is key. As value chain complexity increases, manufacturers will need to rely on flexible frameworks to address multiple regulations and avoid the high costs of one-off compliance solutions.

Trend 6: Global markets. Pharma is feeling the increasing influence of emerging economies. As a result, 'one size fits all' no longer works to meet local consumer needs and demands. The creation of new business methods and models is key to future economic growth. Pharma must address the deficiencies of distribution and delivery systems in developing countries, as well as new internet-enabled and generated demands, such as those for web-based purchasing and distance medical practices. Pharma needs global scale to compete, but must execute locally. To succeed, companies must achieve 'profitable proximity' by developing capabilities to respond to local needs and the threat of low-cost local competition.

Trend 7: Value chain disintegration. This is a result of trends towards web-based purchasing and distance medical practice. New value chain relationships and integration are becoming necessary as the old, indirect pharmaceutical sales models are being supplanted the direct-selling model.

Improvements in the understanding of disease, aging and the effects of treatment could change the pharmaceutical ecosystem. This will involve targeted medications and intelligent devices and implants. A new era in personalised medicine is achievable, with targeted treatments including diagnostic tools that make pharmaceutical products more of an interactive and highly personalised service in the future.

Impact of disruptive technologies

Unlimited storage, broadband, mobility and high-performance hardware are improving the ability of designers to model real-world objects in 3D. Pharmaceutical goods can be virtually created, simulated and analysed, reducing the errors and time to bring new products to market without costly trials. Processes can be simulated to virtually test production sequences, generate manufacturing programmes and perform 'what-if' analyses to optimise cost and other variables.

Cloud computing and the digitisation of the economy have enabled the creation of social networks in which people can share information and activities, and collaborate across boundaries. Pharma can use these to directly reach end customers and consumers, and conduct one-to-one marketing activities tailored to specific needs. Software breakthroughs and natural user interfaces are improving

CASE STUDY: JIT

The monitoring of a runner alerts a care provider about a physical abnormality and the risk of disease. After analysis, the care provider consults the runner about the problem and, based on a discussion with a doctor, arranges for the runner to visit a clinic and to be enrolled in a clinical trial after clinical trial scientists have looked at the runner's information and evaluated the efficacy and safety of the product. Enrolled into the trial, the runner can now obtain medication automatically.

CASE STUDY: SCIENCE AND TECHNOLOGY

A patient is in a clinic being examined by a doctor. State-of-the-art tools are used to provide real-time presentation and evaluation of patient data. For example, collaboration tools are used by the doctor to review the data with experts, resulting in a request for research assistance. Consequently, the research lab is engaged in analysing the data in terms of the patient's health information and genetic history. Research tools are used to evaluate the scientific and clinical data, and to customise a solution for the patient.

The research lab then alerts manufacturing to prepare a specific formulation or customised treatment for the patient. This treatment is delivered to the patient's bedside for administration, while integration with the patient's personal health records enables checks for side effects.

the ease and accessibility of devices in all situations, such as voice recognition for hands-free operation (in a car), large screen displays with touch mode and rich presence to facilitate effective meetings across physical locations. These technologies bring people together from across geographic boundaries and enhance innovation and team productivity. Pharma can use these to respond flexibly to market changes and opportunities across multiple enterprises.

New form factors and devices and high-fidelity displays enable the availability of rich information any time, any where and on any device. It is usual to work with videos, 3D graphical models and touch-enabled devices such as the tablet, all facilitating a more productive and seamless working experience no matter where a person is. Virtual worlds can be created that mimic the real world of pharmaceutical engineering and production, allowing efficient and effective management of the operation processes and providing new ways to find information in the 3D context of physical objects. As a result, all context data are available with a click on the object, ready for the next simulation.

Value chain transformation

Pharmaceutical value chains are being transformed. Single enterprise-based vertical integration is giving way to global networking in innovation, supply chain and consumer power. The need to bring new products to market with shorter life spans is fueling the trend towards globally networked innovation, which requires new alliances with joint performance goals.

Rising global demand with local delivery capability is driving a transition toward globally networked supply chains. This includes digital convergence driving global 24/7 manufacturing, the requirement to address the challenge of complex regulations, and the need to achieve 'profitable proximity' on a global scale, but with local execution. The power shift to consumers involves the emergence of consumer communities and an increasing focus on consumer experiences to cement customer loyalty.

To survive in an uncertain economy, pharma must flexibly respond to the increasing influence of emerging markets and the impact of consumers and consumer communities as active value chain participants. **WPF**