Shaping the Revolution of Healthcare

Digital progress has become a disruptive force across the entire business universe and is dramatically changing the way we understand healthcare. It fosters trends which have a major impact on pharmaceutical companies and requires a comprehensive examination including partnerships, customer experience, business model, operations and capabilities.

BY HERBERT HENSLE AND DR. GÖTZ OTTO

The digital customer experience is rapidly transforming into the mobile area. Digital and technological advances are fundamentally shifting the availability of health information. Connectivity to the (mobile) internet is taken for granted by large parts of the global population. Six core trends need to receive special attention by healthcare players: empowered patients, augmented production, medical devices as lifestyle products, active health management, intra- and interconnectivity of stakeholders and applied smart data. These trends will lead to disrupting adjustments for various healthcare actors.

Empowering patients to challenge healthcare procedures

Patients are increasingly turning to online content provided by websites or apps to gather health insights and create initial self-diagnoses before consulting healthcare professionals. Patient communities, e.g. *Patients like me* or *I Had Cancer,* serve as health information sources and social platforms. The role of patient opinion leaders has emerged. Representing large communities, they become strong players in healthcare agenda setting.

Jump-starting innovation prototyping

3D-printing machines for components and devices enable production facilities to deliver output more precisely and cost-effectively. Similar approaches to molecule printing are already being developed, e.g. by *Revolution Medicines Inc.* or *Biobots*. Rapid prototyping equips innovators with the outstanding opportunity to execute the "Think big, start small, fail fast" philosophy in new product developments.

Lifestyling medical devices

Decisions where functionality easily overrides design belong to the past. Medical devices used to be hidden in closets for the time when patients did not need to use them. Now, they are being upgraded to a status symbol of healthcare, for example the *Apple Watch* or *mimi hearing support tools*. Patients demand a revolutionary customer experience with a sophisticated look and feel. Consumer technology gains access into patients' living rooms.

Managing health actively

Apps, devices and sensors are not only gaining traction in everyday health areas such as fitness (e.g. *fitbit, freeletics*) and nutrition (e.g. *Weight Watchers*), but also with rising stars in health and adherence monitoring, e.g. *MySugr* and *linehealth*. People who track aspects of their lifestyle are increasingly turning to digitally enabled fellows. Gamification strengthens user enjoyment and responsiveness. Even though this is a clear market trend, the sustainable success of active health management still needs to be proven.

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Intra- and interconnecting stakeholders

Patients, healthcare professionals, payors, distributors and hospitals have more opportunities to connect with each other than ever before. They can leverage know-how, data and value propositions from both interconnectivity with peers, e.g. physicians with *QuantiaMD*, and interconnectivity with other healthcare stakeholder groups. This leads to an immense potential for the exchange of medical and health data, key elements to measure healthcare and incentivize health outcomes. Sensitivity of data is critical for connecting stakeholders: reservations against data exchange, regulatory and legal requirements need to be carefully managed.

Amplifying the potential of smart data

Real-time data volumes and sources are rapidly surging. They provide reliable analyses that require techniques and skills that exceed the traditional spreadsheet demands by far. Bringing together mobile, social media, devices, sensors, cloud and real-time tracking, smart data analytics are omnipresent and go hand-in-hand

with steering and decision-making in various disciplines.

The trends described above disrupt business and operating models of many pharmaceutical companies. The entire patient journey along prevention, diagnosis, treatment and monitoring is being digitized. Outcome-based health solutions will gravitate towards the center of the pharma business model; partnerships and networks are gaining more and more importance. Personalized Customer Relationship Management (CRM) is no longer a vision, but imperative to keep up with competitors. Digitized processes and workflows are speeding up the business. Smart data capabilities are a crucial success factor along the entire pharma value chain.

Otto & Company - Smart Data

Evolving digital pharma

Lagging a little behind other industries, the pharmaceutical sector is starting to gain momentum. To indicate how digital pharma is evolving, the four pillars: customer experience, business model, operations and capabilities will be examined in detail.

Step-changing customer experience

New data sources create a pool of customer insights for pharmaceutical companies that exceed current market research opportunities by far. Customer segmentation goes beyond the traditional approaches. Leveraging expanding pools of data, decision needs can be brought up instantly and decision-making will be more fact-based than ever before. Once customers are attracted to digital touch points such as apps, gamification motivates them to remain focused on health-related goals supported by digital fellows. Real-time connections lead to the chance of permanent customer feedback and tracking of customer activities or responsiveness. Intera-

ctions through various channels such as patient opinion leaders and key opinion leaders are live-streamed to large audiences across the globe and draw instant reactions.
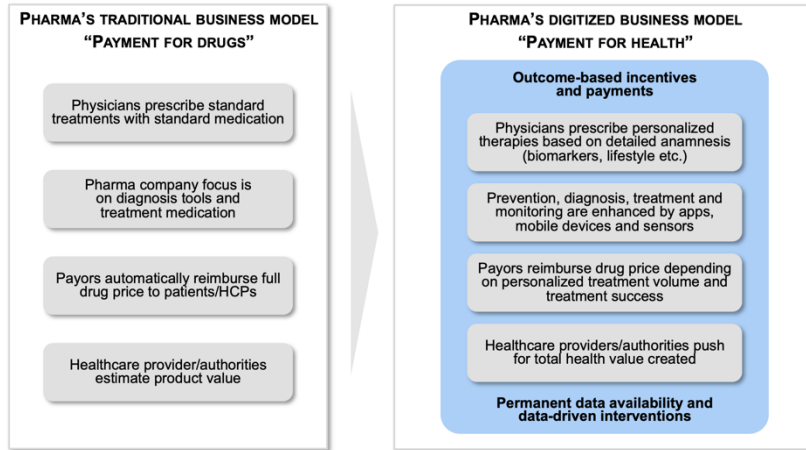
Digital touch points are connected with the entire patient journey along prevention (e.g. Bayer's pill reminder birth control), diagnosis

(e.g. Cortrium's C3 wearable), treatment (e.g. Sanofi's thrombosis inject app) and monitoring (e.g. Roche's partnership with Qualcomm Life Inc.). The use of apps, devices and sensors is not exclusively reserved for patients; a wide array is also available for physicians, e.g. the *ACT.md* app for care management. Payors, especially insurances, are discovering the benefits of the new playground and translate the use of digital health touch points for patients into their brand building and reimbursement schemes. Healthcare actors who take advantage of digital touch points need to ensure sufficient resources to manage them with the required update frequency and content quality.

Digitizing the pharmaceutical business model

Enhanced opportunities in the digitally enabled patient journey will become the foundation for an upgraded personalized healthcare. As the reliance on health outcome measurements will further grow, the digitized pharmaceutical business model will shift from "payment for drugs" to "payment for health". Permanent data availability and data-driven interventions will step-change business iterations. Outcome-based incentives and payments will create a drive for effective medication that has not been experienced by the pharmaceutical industry yet.

The foundation of this transformation will be a significant increase in partnerships with other health stakeholders to leverage various data touch points, validate assumptions on customer behavior, collect new knowledge on treatment success or strengthen open innovation. One example with high potential is Sanofi's cooperation with Verily, Alphabet's Life Science division, on analyzing and improving diabetes health outcomes. The collaboration will pair Sanofi's experience in diabetes treatments and devices with Alphabet's expertise in analytics, miniaturized electronics and low

power chip design. Goals are to improve diabetes care by developing new tools merging the fragments of today's diabetes management approach to increase the effects of support and treatments provided by the HCPs.

Otto & Company - Digitized pharmaceutical business model

Develop digitized operations

Digitalization of operations enables the automated integration of the sales front-end with all related back-end processes. Digital content management, community knowledge sharing and process automation leverages both efficiency and effectiveness of back-office support. The implications will be demonstrated along selected functions.

Fully integrated closed loop omni-channel management of marketing and sales is becoming a reality for leading pharmaceutical companies. Cross-functional brand or category management teams produce omnichannel marketing campaigns that are delivered together by the sales force, e.g. direct detailing and key account management, and by the marketing department, e.g. meetings, conventions, HCP or patient platforms.

Sales force campaign delivery is tracked by fully integrated CRM systems such as Salesforce.com or Veeva; complementing activities have their respective KPIs and monitoring tools. Smart data connects these streams, provides real-time performance feedback

and drives adaptations in campaign design and campaign execution.

The return of marketing investments is transparent in a way that has long been searched for. Qualitative and quantitative feedback on campaigns across multiple communication channels is instantly accessible, e.g. with the Salesforce.com Marketing Cloud. Sales force and sales support processes benefit from enriched customer data to improve call customization, message quality and results delivery.

For R&D departments, leveraging open innovation in the digital era plays a central role. Open idea contests and online ideation platforms are just some examples for new methods to generate creative ideas. Target communities grow bigger and bigger, their connectivity enables real-time reach and communication across the globe. Ideas are filtered with a fast strategic, technical, medical and regulatory assessment of their fit with the goals of the company. Once translated into the innovation processes, predictive modelling, real-world smart data analytics and rapid prototyping accelerate new product developments.

Support functions such as Procurement, HR, Finance and Controlling are on their way to become digitally enabled business partners. They speed up their efficiency with automated shared services, processes and transac-

tional self-service systems for both employees and management. At the same time, business partners improve their effectiveness with faster feedback loops and an increased number of improvement iterations.

Enhancing digital capabilities

To evolve the digitized business model, a digital transformation office and the respective governance structures need to be tied into the organizational design, e.g. Chief Digital Officer and Digital Council as implemented by Bayer. Besides securing a flawless IT performance for the current business, a comprehensive IT infrastructure needs to ensure that data from new sources, e.g. connected devices or health stakeholders, can be used. Smart data forces companies to engage in analytical exercises across various business functions, one example is Roche's Real World Data Science unit. An organizational culture that enables continuous sensing and learning fosters the innovative transformation climate.

Building up these digital capabilities confronts healthcare players with significant challenges, especially for their HR and IT functions, e.g. in recruiting, compensation and benefits, talent management, fostering the culture of the digitized organization and securing a two-speed IT architecture.

Shaping the revolution of healthcare

The outlined digital trends and their translation into the pharma business model have emphasized the disruptive impact of digitalization in the healthcare industry. Pharma companies need to pro-actively respond if they want to gain an edge over competitors and new market entrants. A digital transformation requires following major elements:

First, understand the digital impact: digitalization affects core elements of pharma business; some are

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mentioned above. These elements need to be identified and their business impact holistically evaluated. Once the digital impact is fully assessed, companies need to develop a digital vision and align the digital transformation agenda.

Second, define clear digital responsibilities and accountabilities: engaging in digitalization requires resources to support the transformation. Staffing digital transformation and setting up the respective governance are core steps that need to be supported by reasonable funding and workforce.

Third, kick-start the transformation: going digital is not an incremental step, but a game changer. To ignite strong commitment, it is necessary to start the transformation with full-fledged communication efforts, clear goal setting, outlined transformation paths and employee involvement.

Fourth, mobilize the organization: high organizational motivation is not achieved during the kick-start, but along the transformation. Management and employees need to be constantly engaged in collaborative digitalization efforts to

become active parts of the digital journey.

If pharmaceutical companies effectively use these elements to leverage their digitalization approach and successfully engage in digital transformation, they have a great chance to significantly upgrade their business and to shape the novel perception of healthcare.■