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As head of digital transformation at Bayer, Saskia Steinacker is well placed to unpack the hype around artificial intelligence in healthcare. In a wide-ranging interview, she explains how AI is already transforming the company's internal processes and external impact, why stakeholders must not lose sight of solving real-world problems in the current AI boom, and what pharma can learn from the tech industry.

Our last conversation was three years ago, still in the midst of the pandemic, when you had just moved back to Germany and Europe was in the process of preparing new regulations around ethics in AI. What have been the key items on your agenda in the interim period?

A lot has unfolded in the past three years, with the predominant factor being the pandemic. Bayer, like many other companies, had to swiftly adapt to the new normal, witnessing a shift towards remote work, and 30 to 50 percent of our time is now spent at home. This required rapid adjustments in our approach to hardware, software, technology, and cybersecurity, as well as managing data devices and overall infrastructure. We took on this challenge successfully, ensuring a smooth transition for our team.

As a life science company with core competencies in the fields of healthcare and nutrition, we intensified our digital transformation efforts across the entire business spectrum, from research and development to product supply and commercialisation. Embracing the latest technologies, we integrated them into our processes, enhancing our ability to deliver cutting-edge products and services to consumers, patients, farmers, and other stakeholders. We focused on impactful enablers, e.g., achieving significant advancements in moving to the cloud, ensuring high-quality and secure data assets. The strategic partnerships we have forged play a crucial role in this journey.

To what extent did COVID serve as a pivotal moment of change for Bayer?

Over the years, Bayer has undergone several significant transformations, including in response to the paradigm shift brought about by COVID. The company's evolution in recent years can be observed in two key aspects. Firstly, there has been a notable shift in our ways of working, exemplified by the adoption of a hybrid working model. This change reflects a broader trend in the business landscape.

Secondly, the pandemic accelerated our digital transformation, leading to increased digital acumen among employees. The comfort with digital technologies has permeated our daily operations, paving the way for a more tech-savvy workforce. This, in turn, has facilitated the broader application of digital advancements in various business areas. Through training initiatives, we ensured that our team is well-versed in digital technologies, contributing significantly to our overall progress and adoption in this transformative journey.

The pharmaceutical industry has traditionally been cautious in adopting new technologies. While this is understandable due to compliance concerns and the critical nature of healthcare in treating patients, are you observing any shifts or new perspectives on this front at Bayer?

There has been a noticeable transformation. Teams are converging, and there is a heightened emphasis on digital and technological advancements, driven by the expectations of stakeholders.

We see a move towards iterative cycles in solution development, leveraging technologies and embracing artificial intelligence (AI). This shift presents significant opportunities across the value chain, particularly in research and development (R&D).

Despite these changes, our unwavering focus remains on the customer. The incorporation of digital technologies and AI fuels our commitment to delivering innovative products and services that serve our mission of “health for all, hunger for none.”

How have you witnessed attitudes towards AI evolve within Bayer over the past few years? And how is AI being integrated and utilized within the company today?

AI has been a transformative force at Bayer, and it is important to note that its integration long predates the current buzz. The company has a longstanding commitment to AI, evident in our substantial investments in this area. In medical imaging, for instance, AI has been instrumental for a while, contributing to an estimated 286 million contrast-enhanced X-ray, CT, and MRI procedures conducted annually worldwide. This extends to diagnostic innovations and therapeutic applications, showcasing Bayer’s unique advantage in both areas.

Moreover, in marketing for consumer health, AI is proving its worth in content and image creation, enhancing brand illustration and promotion. Forecast planning, particularly crucial during the pandemic, is another domain where AI-based tools play a pivotal role. Leveraging historical sales data, marketing information, and various datasets, Bayer ensures accurate forecasts, enabling proactive management of demand fluctuations. These applications across pharma, crop science, and consumer health exemplify the comprehensive integration of AI along Bayer’s value chain, showcasing its multifaceted impact on internal processes and external products.

How does Bayer’s approach to AI differ from that of its competitors in the pharmaceutical industry, considering the rush towards AI adoption across the sector?

Our mission of “health for all, hunger for none” drives everything we do. Rather than searching for problems to fit the AI solution, we remain centred on addressing specific challenges to the benefit of patients, consumers, and farmers. This purpose-driven focus guides our utilization of AI as a strategic tool to solve identified problems effectively.

That also means we recognize the importance of collaboration and building a robust ecosystem. Instead of attempting to tackle every aspect independently, we actively seek partnerships and collaborations within the AI ecosystem. This approach allows us to leverage collective expertise and contribute to a broader pool of knowledge, fostering an environment of accelerated learning and innovation.

As for the future evolution of AI, while the technology is adept at analysing vast datasets to provide valuable insights, it remains a complementary tool. The human element, particularly in discerning strategic insights and making decisions based on nuanced considerations, remains indispensable. AI is viewed as an augmentation tool rather than a replacement for human judgment.

How open and how able are doctors, payers, and governments to adopting AI solutions within healthcare systems? Are there notable differences across countries, and what role do regulations play in this scenario?

The adoption of AI solutions within healthcare systems is gaining traction, with increasing openness from healthcare professionals (HCPs), payers, and governments. However, the level of acceptance varies across countries and regions. In general, there is a growing awareness of the potential benefits that AI can bring to the healthcare sector.

HCPs are becoming more receptive to AI applications, especially in areas like medical imaging. For instance, Bayer has been using AI capabilities in medical imaging for a considerable period, with a focus on improving diagnostic accuracy and efficiency. AI-powered tools assist radiologists in providing accurate and timely diagnoses, addressing challenges such as burnout among healthcare professionals.

The regulatory environment plays a crucial role in shaping the adoption of AI in healthcare. US and EU agencies, for example, has been making strides in developing regulations to govern AI applications in the medical field. However, challenges arise when regulations overlap with existing legislation. The complexity of navigating multiple, overlapping regulations, such as medical device regulations, broader AI regulation and data privacy rules can pose a hurdle for companies. The concern is that a complex regulatory framework, while well-intentioned, may create a cumbersome and potentially inhibitive environment for innovation.

Do you feel that Europe’s early move to put AI regulation in place will serve as a hindrance to AI adoption in the bloc or potentially position it as a global leader?

The regulatory landscape in Europe, while well-intentioned, has the potential to be a hindrance if not approached holistically. The complexity of regulations, including potential duplication and overlapping matrices, as well as fragmented interpretation and implementation across all 27 Member States could undermine Europe’s position in the rapidly evolving field of AI.

While regulations are a vital aspect, the quality of data remains a fundamental prerequisite for effective AI utilization. Establishing an infrastructure for health data spaces is essential, requiring a focus on security, harmonization, and standardization. Europe, like other regions, needs to address the challenge of data silos and foster a collaborative environment to ensure the availability of reliable and actionable data.

As we navigate this new era of AI, what potential pitfalls and risks should stakeholders be cautious of? How can we avoid overreliance on AI and ensure a balanced approach that retains a human touch?

It is imperative to strike a balance between the opportunities and challenges that AI presents. One key consideration is to avoid placing AI at the centre and then working backwards to find a problem. Instead, we should take a problem-centric approach, identifying real-world challenges and exploring how AI can effectively address them. Organizations must continually assess whether AI initiatives contribute to achieving business goals. Evaluating the impact on both top-line and bottom-line outcomes ensures that AI efforts are purposeful and yield tangible benefits.

Understanding the inherent risks of AI, such as hallucinations in GenAI models, is crucial. Stakeholders must have a deep understanding of these risks and be sure to address them, one means being explainability. Ensuring that AI models can be explained and understood is vital for transparency and regulatory compliance.

Privacy concerns, especially regarding data and software codes used in generative AI, must be addressed. The evolving regulatory landscape demands a careful examination of how AI practices align with privacy regulations, ensuring compliance in the face of increasing legal scrutiny.

Adequate education and skill development are critical. Employers and employees need to be well-versed in AI applications and understand how to leverage AI tools responsibly and effectively. This involves training personnel to use AI as a solution to real-world challenges.

AI implementation is not merely a digital transformation of analogue processes. It requires a re-evaluation and transformation of certain processes. Organizations should be prepared to adopt new and disruptive approaches, leveraging AI to drive top-line growth and reduce costs.

Given your position at the intersection of the tech and pharma industries, what do you think pharma should (and what should it not) take from tech?

We must recognize that as a Life Science company, our core strengths are in product discovery and development, particularly in the expertise required for large clinical trials and the regulatory approval process. While our industry may not be as well known for it (compared to tech), Bayer acknowledges the value of adopting some of the working methods and methodologies from the tech industry, such as iterative cycles and cross-functional teams to enhance our efficiency.

The ability to analyse data swiftly is an area where we see great potential from the tech industry. Incorporating these capabilities can significantly improve our decision-making processes. However, we emphasize that this collaboration is not about turning Bayer into an AI company but rather about leveraging strategic partnerships and ecosystems. Our approach involves working with large tech players, academia, governments, and start-ups to create synergies and generate innovative solutions.

In essence, the focus is on capitalizing on our core competencies while integrating technological advancements to serve the best interests of patients and customers.

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