EVOLVING UX TO NEW "REALITIES" – AR/VR IN PHARMA

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Born in Russia, Andrey got Master's Degree in Computer Science at Moscow State University. He started his career in 2005 at Procter & Gamble. He built eCommerce solutions in Russia and led the IT & analytics to support the global Olympics campaign of P&G for Sochi "proud sponsor of mums". Since 2012 Andrey has been creating industry leading solutions across Social Engagement, and real-time marketing to transform how products are launched and content is created to drive memorable customer experience. Andrey co-led global P&G Digital Innovation Accelerator, driving in-market pilots, bringing into P&G brightest start-ups and disruptive technology, sourced from global innovation outposts, and scaling success. In June 2017 Andrey moved to Berlin, Germany to join Sanofi. In his current role, Andrey is responsible for driving Innovation with emerging technology, developing and evangelizing global IT innovation framework, and creating technology-driven disruptive innovations and Customer Experiences in partnership with Business Units and Global Functions.

Why is it so important to talk about areas such as data visualisation and virtual/augmented reality in pharma?

In my talk I am addressing how Customer eXperience evolves with new interfaces, and specifically new immersive "realities" – augmented reality (AR), virtual reality (VR) and mixed reality (MR). With the accelerated rate of technology evolution, we are facing more and more interfaces, and we need to adopt them to extract the maximum value out of it, because the consumers, or the patients, all of us are embedding those interfaces anyways. It's then up to us how to extend our omnichannel presence and experience. The industry has no choice other than adopt it fast, but in a relevant way, because every single interface brings a new context. For example, the virtual reality I will be talking about, or augmented reality, has a unique context as well. On one side, you can apply a number of existing UX/UI principles. On the other side, VR is the first 100% frameless interface. What does this mean? It means you have undivided attention. So, in the era where all of us are constantly switching the context, putting our attention to the new instant message arriving on smartphones or wearables. A virtual reality headset, though, is your unique chance to not be distracted. If we're talking about the pharma industry for how they approach healthcare professionals – using VR would be the chance for doctors for two minutes to forget about their phone. This could be a useful, contextual application of VR.

Is this the key area you are focusing on?

Evolving User eXperience to "new realities" is one of key areas indeed (machine learning and automation are the other examples). Evolving CX and UX require adjusting our marketing communication strategies, building new capabilities across the whole value chain – applying new forms of interfaces leveraging their unique strengths. With 100% frameless immersion – VR can easily "trick your brain" that is actively used for digital therapeutics. It can be used to distract the brain from unpleasant experience (like vaccination procedure for a kid, or helping women in labour to reduce levels of pain). "Tricking the brain" can also amplify effect of a certain drug, or act as digital alternative to pain treatment. Software companies like VR Health use VR to gamify physical therapy for people above 60 years old, asking them to "crush watermelons with VR knives". Patients enjoy these therapies so much, boosting the myth that VR is "for kids only". Swiss unicorn MindMaze goes beyond that and creates their own VR headsets with built-in sensors, that are able to restore neural connections in the brain for people who survived the stroke.

When creating those new experiences – we need to be very cautious of being 100% realistic – with scales, speeds and even the sound placement. The fact that VR tricks your brain means that if you do something wrong – user can feel really sick, really fast, and for long. It will be so impactful that they will hesitate to try VR again. It is super important to respect body proportions, and even sound synchronization should be perfect. On the other hand, if it's done right, your brain can help you to cope with a disease in different way. We are still at the very early stages of VR applications in digital health. There is a lot of experimentation, but it is an area that we need to learn still a lot before eventually it becomes a norm in digital health.

Are there any particular challenges that come with this?

Yes, of course, besides obvious learning path towards creation new sorts of algorithms – there are much more pragmatic challenges for all the new interfaces – being it VR/AR/MR, or being it conversational AI (chatbots / virtual agents). They all confront established business processes that are designed for "mature" interfaces. For example, content approval. "Can you present VR experience in PDF?" "Or can you give all possible dialogues your chatbot can have?" Almost like famous joke "Can you print this YouTube video"? Quite challenging for approvers to face those new forms, and accept that content can actually change depending on user behaviour, based on sometimes unpredictable questions addressed in real world to chatbot, or some behaviours that VR might need to adjust to in real-time.

Secondly putting technology standards is challenging. It is sort of easier with conversational AI, choosing one NLP platform, and align core architecture. But for VR/AR it is way more challenging. There are some software standards like Unity. However, for hardware standards are almost non-existent. At the same time software and hardware for VR are linked much tighter than in mobile for example. Unwillingness to deal with complexity often results in creating new VR product end-to-end from scratch for every new project, paying full price to an agency "next door", and ignoring what was already built by others. When one tries to re-apply what was built before – they often end up in the need to replicate also hardware choices.

We are now working on some technology standards, but we're very well aware, that in this dynamic area one should be ready to evolve often, while keep consistency across few elements, that would allow reasonable "economy of scale". Besides investment in technology – we also need to evolve processes related to the medical, legal and regulatory approvals, adjusting of customer experience etc.

What are the projects you are working on?

We have a number of projects going on. On VR specifically – we're trying to build on technology strengths. In similar way like e-mail reduced cost of communication close to zero – VR can eliminate the cost of mistake for "expensive" experiments, replacing it with immersive impact on brain combined with haptic response in your hands. For example – to build a plane one needs to drill holes in the wings. Training to do it can cost millions. But if you learn with VR and haptic response in your hands – it can save millions. Same way you can train on how to operate in sterile rooms using VR for free, while in real-life mistake during training can be quite expensive, resulting in re-sterilizing the whole environment.

Another example that leverages 100% immersiveness of the experience – we try to increase empathy of healthcare specialists to Gaucher Rare Diseases, so that next time a haematologist sees a patient their consideration level for Gaucher disease can increase. We also use VR for more impactful education during congresses. Talking about digital therapeutics - we experiment with VR to distract kids from "fear of needle" during vaccination... These are just few, there are more.

How to scale though is always a top of mind question. One of the milestones that our IT and medical teams accomplished recently is creation of "VR playbook", that outlines steps to create a good VR experience, business cases where it makes sense to use, as well as key technology considerations. It is made available for different Business Units and global functions to learn before kicking-off new projects. We are taking it to the next level now, working on technology standards, platforms and services – in the same way we treat more mature web and mobile technologies. The biggest focus, though, is obviously on value. We are collecting learnings from every new pilot – to continuously understand what really creates value for patients,

healthcare professionals, and Sanofi.

Is there someone that is that is supporting you or this company in this kind of work? Are you using any solutions from other companies that help?

We work with several partners, yes. But I think the key point in any emerging tech is not to rely on one partner. It's more useful to rely on a very linked multifunctional team, to have expertise internally and leverage multiple partners on the way towards that. You're trying to confront the proliferation of technology and solutions where each and every person in each and every part of the world creates their own, not thinking about technology standards, learning a bit on the customer experience and on the patient experience, but not necessarily creating something that can be replicable.

This is a problem, and there is a good example of that in Germany, where we have created a good solution, leveraging AR to help the sales reps talk with the pharmacies. It was a success, but scaling was problematic because the technology choice by the agency that developed the specific solution was not designed for scale. So, we took the positive business learning from that pilot that confirmed the value for customer – then we completely re-built the whole product in a different technology, and now we're launching it across 10 countries. The question is, how do you create a companywide standard, both in software and hardware, as well as their proper way of addressing that with regulatory, medical and legal problems. We are still working on it.

What will be the top three takeaways of the presentation?

The AR and VR market and healthcare grows very quickly, and you cannot to ignore this. So, the faster we learn and extract maximum value for our companies, for patients, and for doctors – the better. It evolves really fast and continues accelerating. Secondly, in some respects, at the moment the user experience of the VR and AR and the principles are similar to the other technologies we are used to having, like the mobile and web. However, there are a few significant differences that we need to consider. We need to be patient-centric and customer-centric, and learn to use these technologies playing on their strengths (immersive / frameless, no distraction / tricking the brain, reducing cost of expensive experiments to zero). Sharing learning broadly across organization can significantly accelerate the journey. Lastly, I'll share a few thoughts about the scale opportunities. What does it take to scale it up.

What needs to be true. Are there use cases that cover the different parts of the value chain, starting from the research and development, all the way to the initial therapeutics, to see which ones are actually proven to work.

We do have a stream within Pharma IT that looks at digital health and digital technologies. Does this go hand in hand with these areas of digital therapeutics?

Yes, because digital therapeutics is one of very interesting applications of these emerging technologies. It's much less about data visualization and is more about the fact that there's a new generation of user experience. It's not mature quite yet. There are early signs that it's working, but there is much more to come. It's a fast growing area, and I think that we'll see more drug therapeutics platforms coming, including from big tech players.

What do you think will be the biggest areas of growth in the industry in the next few months and years? We talked specifically about the visualization area, and augmented reality and virtual reality for pharma, as part of digital therapeutics. Would these be the main areas that are going to drive that growth?

Yes, definitely, it will be part it. New interfaces and customer experiences will continue evolving, and will more and more integrate algorithms to create real-time personalized experiences for customers and patients, adjusting based on individual behaviours and needs. What we see today in Digital Health is still baby steps. The future is bright, and is not that distant. With 5G becoming mainstream over next few years – with significantly higher speeds and almost zero latency – personalized VR and AR applications will expand and become better. They will be supported by remote algorithms and hi-resolution streaming in real-time, making it much more personalized, reactive and accessible.