
Modern Digital health: Power of Retail Is Taking over Healthcare



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It's time to address the Amazon in the room

Anyone who has been to the future can predict what Amazon will do next. However, to the skilled observer, all the pieces are laid out—the elements are on the table. It will simply be a connect-the-dots moment to realise the big bang that we are about to experience.

For the last 25 years, Amazon has been growing at a constant pace in the retail ecosystem. But in the last five years, a sheer acceleration took place. Amazon took the fast lane of acquisitions in healthcare and a corporate development of the company has been happening right before our eyes.

How the pieces were set: data, transaction expertise and warehouse automation

Throughout its existence, Amazon has been taking progressive strategic positions in the retail ecosystem. Amazon Web Services (AWS) was deployed from 2002 to 2006 as a cloud infrastructure service, currently a ubiquitous tool in the market.

Then in 2005, Amazon Prime was introduced in the US and swiftly progressed to a wider global expansion in 2016 (there are now up to 16 countries). Today's users of Amazon Prime are calculated at about 150 million worldwide (120 million in the U.S. alone). Coupled with this move, Amazon acquired the chain of organic grocery stores Whole Foods Market in 2017 (including 500 stores in the U.S. and 4 in the UK). The Amazon marketplace has also sprawled, widening the range of sellers and featuring the "Fulfillment by Amazon", a logistics relationship that allows sellers to let Amazon deal with the storage and shipping of goods. Digital retail, transactions and logistics? Check.

Finally, the Echo/Alexa family has been consistently growing since 2014, and these devices, together with the Amazon e-commerce website, have allowed to gather users' various data points. Data, data and more data? Check.

How the pieces project in the healthcare ecosystem

In the meantime, other acquisitions began to take place in the healthcare segment. There is a recent trend in Amazon's acquisitions that has created a logical path allowing us to understand the ultimate goal of the company in the digital healthcare sector. One of the major events was the foundation of Haven Healthcare, a non-profit healthcare partnership between Amazon, Berkshire Hathaway and JP Morgan & Chase. Unclear goals and hazy organisation, coupled with a pandemic-impacted operation, made this venture struggle until its disbandment in early 2021. In an alternate reality, this would have been a game changer for the industry. Positioning in the healthcare industry? Check.

With operations such as the acquisition of Pillpack (June 2018, a company specialised in pharmaceutical logistics-delivery of prescriptions) and Health Navigator (October 2019, a start-up specialising in digital healthcare services), Amazon has sent an important message to the market. Strategic acquisitions in key healthcare points? Check.

Together with the constant data strategy that the company has been deploying on the retail segment with Amazon.com, additional specific applications with health implications have been developed: the Echo devices (Alexa is HIPPA compliant since 2019), Amazon Halo (a fitness and health monitoring device, launched in August 2020) and the overall presence of AWS with Amazon Transcribe Medical, Amazon HealthLake and SageMaker. AWS services on healthcare have shown the capability to aggregate structured and unstructured data into a HIPPA and FHIR compliant database on the AWS cloud, called the 'data lake'. Healthcare-ready cloud domination? Check.

Amazon is also taking the opportunity to roll out its offer of primary healthcare services for its employees in the Washington State area in the

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U.S. through Amazon Care (over 80,000 employees). This allows them to deploy the integration of its recent acquisitions and test them with the application of data analytics tools. Controlled testing and primary rollout? Check.

A few experiences are being tested, such as Amazon Pharmacy in Japan for category 1 drugs (drugs previously prescribed by a physician). In the same vein, the company has also partnered with Crossover Health to establish health centres near Amazon fulfilment structures for their employees (known as the Neighborhood Health Center Pilot Program). Additional tests have been performed for the AWS cloud platform in Beth Israel Deaconess Medical Center in Boston, Massachusetts, to test how AI can improve patient care and clinical workflows. After integrating AWS cloud solutions since 2016 in the institution, a new project launched in March 2019 will use machine learning technology to optimise the functioning of 41 operating rooms, help in the digitisation of electronic health records as well as the prediction of workflow organisation to improve operations. Similarly, Amazon has also launched the Pittsburgh Health Data Alliance, including the University of Pittsburgh Medical Center, the University of Pittsburgh and Carnegie Mellon University, which will allow AWS to participate in a project in cancer diagnosis, precision medicine, EHR and medical imaging. Legitimacy in the industry with prestigious institutions? Check.

A blueprint for takeover

Watching Amazon's strategy in the last few last years, we understand that it has taken positions in the sector in a way that will determine its dominance in the future. Amazon has turned the retail store experience around, bringing it inside our homes. 82% of households in the US have Amazon Prime, which sets the stage for a long-term relationship with the giant and a gateway not only to products but also music, video content and more.

The healthcare industry has been experiencing a revolution beyond the pandemic, from a technological perspective and a consumer behaviour perspective. There is a consolidation in the healthcare channels (telemedicine, deregulations, last mile...) and a fast growth of players in the sector driven by the acceleration of technology and big data.

Just as users have been ordering their products and groceries right to their doorsteps, and as they began to accept teleconsultations as normal and practical, all signs point to the healthcare sector being ripe for a paradigm shift, where everything will happen much closer to home.

Apple's Tim Cook has recently said "There's much more in the health area", so you may guess what is coming. The future is here. The pieces of the puzzle are all laid out. Let us just hope that, in this case, *the tree will let us see the whole Amazon*.

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