

RUSSIN & VECCHI

HEALTHTECH HAS BLOSSOMED IN VIETNAM ... THE FUTURE IS NOW

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Vietnam's response to COVID-19 is a perfect example of how a country with modest financial means can successfully address a grave health challenge. At the end of Vietnam's first pandemic wave, Politico, the US-based political news organization ranked Vietnam the world's best performer.

Many in Vietnam have now begun to focus on the technology that will create better healthcare. Some of this is no doubt driven by the focus that COVID-19 has put on Vietnam's healthcare deficiencies, and on worldwide innovation in the delivery of solid healthcare.

The case for augmented healthcare solutions has been growing, leveraging the use of artificial intelligence ("AI"), blockchain technology, virtual reality/augmented reality ("VR/AR"), 3D printing, and robotic applications. Progress is growing but clearly COVID-19 is an accelerant. It's well recognized that a shock to the healthcare system (eg, a more lethal version of COVID-19, or significant numbers of infected persons), will challenge the nation's hospitals and healthcare system. Vietnam continues its move to e-medical records. Some version of telemedicine has been developing, but COVID-19 is an accelerant, and much is happening.

VIETNAM'S PLAN. The Ministry of Health's Circular 49 provides Vietnam's telemedicine priorities: (1) remote medical advisory; (2) remote consultation and visual diagnosis; (3) remote consultation on surgery; and (4) remote training and transfer of medical examination and training techniques.

Coincidentally, AI is at the core of Vietnam's push to develop several smart cities. Deputy Chairman of the HCM City People's Committee, Duong Anh Duc says HCM City must become an AI development and research hub. This plan aligns with the draft National AI Strategy, endorsed by the Ministry of Science and Technology, which proposes building three AI innovation centers in Vietnam. The HCM City Department of Information and Communications confirmed that special data and computing infrastructure are being developed.

Prime Minister Phuc has tasked the Ministry of Information and Communications ("MIC") and the Government Office to finalize and submit a **program for national digital transformation**, and to accelerate digital transformation across sectors. On June 3, 2020, Prime Minister Phuc signed Decision 749 approving the "National Digital Transformation Program to 2025, with a vision to 2030". The prime minister has tasked the MIC and the Ministry of Health to develop technology platforms for healthcare, including telemedicine, to build national databases for

healthcare, and to complete a legal framework and technical standards with a view to encourage digital transformation in the healthcare sector. The government's hands-on support of healthcare adds a dramatic surge to the government's commitment.

SO, WHAT'S BEEN CREATED? In April, Prime Minister Nguyen Xuan Phuc attended the launch of a remote medical examination and treatment platform developed by **Viettel**. Viettel's platform called **Telehealth** enables remote medical consultation, remote surgery consultation, remote training, and remote technology transfer. The platform was developed to augment the examination and treatment capacity of remote hospitals and to reduce patient overload at central hospitals. It also marks a significant milestone along the path toward digital transformation of Vietnam's healthcare sector. Via the platform, experienced medical practitioners are able to provide direct consultations for patients in remote hospitals across Vietnam. Doctors at Hanoi Heart Hospital recently successfully used *Telehealth* to carry out the first online heart surgeries at Phú Thọ General Hospital.

The healthtech startup **eDoctor**'s platform allows users to book a doctor or nurse for medical examinations and medical services in the privacy of their homes. The platform offers an extensive variety of tests, like thyroid function, liver health, cancer screening, etc. Users can view their examination results and ask questions online. *eDoctor* is starting to gain a foothold in the business community, providing regular health check-ups for large corporate clients Toyota, Honda, and FedEx. This flows nicely into the government's determination to find ways to support patients who do not have easy access to medical care.

Jio Health is a healthcare platform that provides online booking of clinical services. The platform facilitates healthcare delivery by managing personal health profiles and by sharing patient medical data with healthcare providers, enabling patients to receive immediate care in their home via medical practitioner visits. *Jio* offers a wide range of specialty medical services, as well as online pharmacy, premium family healthcare plans, maternity care packages, and corporate checkups.

Bluezone, a government endorsed app, supports contact tracing for COVID-19 exposed people. It was unveiled by the Ministry of Information and Communications and the Ministry of Science and Technology. It's a smartphone app using Bluetooth low energy technology. The app allows detection of other users within 2 meters and keeps a log of all encounters. If an app user is later found to be infected with COVID-19 (known as "F0"), through the saved data, health authorities can identify those users who have been in close contact with "F0" and the app will alert these users about the risk of infection. These users are then classified as F1, and so on. Of course, the more users, the more data, and thus the more effective the product.

HCM City based startup **DOCOSAN** is another platform to connect doctors and patients. The basic premise is to use technology to streamline the patient intake process, doctor selection, and management of patient documents. Patients are able to search for specific doctors based on specialty and location, price, and they can leave a review of their experience. Doctors are able to leverage the network effect of the platform in order to find new patients. This too has the potential to help poorly served citizens.

Thuocsi's business-to-business (B2B) marketplace is yet another product of Vietnam's healthtech ecosystem. It connects pharmacies and healthcare practices with licensed distributors of medications, and it provides automatic matching of orders with end-to-end logistics. The platform's mission is to increase safety by improving transparency in Vietnam's pharmaceutical supply chain. It does that by providing real-time pricing, detailed information on active ingredients, and a communications network used for important messages like product recalls.

AI HEALTHCARE APPLICATIONS. AI has a number of compelling healthtech applications. For example, AI can significantly speed up research during drug development. Among other functions, it can pore over millions of research papers to attempt to match molecules to diseases. AI also speeds up the process of identifying clinical trial participants, further reducing costs. Today companies in the space have understandably shifted focus to preventing, managing, and treating the spread of Covid-19. For example, tools for clinical decision-making, enabling frontline healthcare workers to make faster treatment decisions, and decisions about how to manage resources more efficiently. In the event of a nationwide outbreak, AI powered tools which accurately and safely speed up the clinical decision-making process, will be critical to alleviating stress on the system caused by a rapid influx of new patients. As you can see from companies like **VinBrain**, which is building an AI Radiologist's assistant that can provide more accurate radiology diagnostics using state-of-the-art AI technology, Vietnam tech operators are seeking ways to create a broader application for AI.

WEARABLES. HCM City is home to US startup **Earable's** engineering and development base. Earable is an in-ear device, much like a pair of earbuds, which has biosensors that are used to collect health quantification data. **Earable** has multiple sensors and uses proprietary machine learning algorithms for higher accuracy of bioelectric analysis. The algorithms score every 30-second epoch of sleep data into an appropriate sleep stage using a set of "discriminative features extracted from the separated brain, eye, and muscle signals." These data are then used to improve sleep quality. There are also applications for meditation enhancement, epilepsy suppression, Driver's Distraction and Drowsiness Prevention, among other specific use cases.

VIETNAM OUTLOOK--A GOOD START THAT COULD ACCELERATE. Major hurdles for startups in Vietnam's healthtech space are low consumer trust and lack of trained staff. The government is smart to target AI. AI has the power to ease the burdens faced by clinicians and give workers better tools, but workers need to be trained in order to use the tools. To receive value from AI, institutional readiness is required. Organizations can integrate AI expertise in their structure and governance, to build an AI-smart workforce and culture that will leverage AI to augment quality, efficiency, and outcomes.

Healthtech startup funding and investment in Vietnam is still very modest. This lack of funding, which is crucial to sustainably operating in a highly regulated sector, is also problematic.

Stakeholders in the ecosystem will need to work together in a transparent and ethical way. Securely managing confidential patient information is paramount. Blockchain technology has shown much promise in this regard. The Ministry of Science and Technology has been vocal about prioritizing support for startup companies and businesses which focus on blockchain, through the "Support Innovative Startup Ecosystem in Vietnam until 2025" National Program.

There are no restrictions on foreign investment in technology. This means there is no foreign ownership limit on healthtech companies. A foreign investor can establish a 100% foreign invested enterprise to provide healthcare technology services (software application).

Legacy healthcare has been slow to adopt new technology. But COVID-19 has created a unique set of circumstances, forcing social distancing and in turn increasing the need for tech solutions across industries. Healthcare is no exception, and the acceleration of technological innovation increases efficiency, transparency, scalability, and brings down costs. The opportunity for growth in the healthtech space is clear, and many Vietnamese and foreign investors are taking advantage of the situation.