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Digital Health Entrepreneurship in Vietnam

SYSTEMS, STAKEHOLDERS, AND OPPORTUNITIES

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Table of Content

ABBREVIATIONS	1
PREFACE	2
2. CONTEXT & PROBLEM	5
3. OPPORTUNITY	8
3.1 Vietnam Has a Strong Digital Foundation	8
3.2 Vietnam Has a Thriving Startup Ecosystem	8
3.3 Opportunity: The Case for Digital Health Entrepreneurship	9
4. KEY QUESTIONS	11
5. METHODOLOGY	11
6. HEALTHCARE ENTREPRENEURSHIP IN VIETNAM	11
7. STAKEHOLDERS	14
8. BARRIERS FACING HEALTHCARE ENTREPRENEURS	16
8.1 Theoretical Foundation	16
8.2 Assessing Vietnam’s Healthcare Entrepreneurial Ecosystem Through MIT’s Framework	17
8.2.1 Foundational Institutions	18
8.2.2 Infrastructure	18
8.2.3 Demand	19
8.2.4 Culture and Incentives	20
8.2.5 Funding	21
8.2.6 Human Capital	22
9. RECOMMENDATIONS	24
10. FUTURE RESEARCH	28
11. CONCLUDING THOUGHTS	29
12. APPENDIX	30
Funding & Advisors	30
Interviewees	30
Conversations	30
Exhibits	31
ENDNOTES	35

ABBREVIATIONS

ASEAN	The Association of Southeast Asian Nations
B2B	Business-to-business
E-CAP	Entrepreneurship Capacity
EHR	Electronic Health Records
GDP	Gross Domestic Product
HCI	Human Capital Index
HCMC	Ho Chi Minh City
I-CAP	Innovation Capacity
ICT	Information and Communication Technology
IDEs	Innovation-driven Enterprises
LMIC	Lower-middle-income-country
MOH	Ministry of Health
MOU	Memorandum of Understanding
NCD	Noncommunicable Diseases
OOP	Out of Pocket
PISA	Program for International Student Assessment
SDG	Sustainable Development Goals
SHI	Social Health Insurance
UHC	Universal Health Coverage
VC	Venture Capital
VIISA	Vietnam Innovative Startups Accelerator
WHO	World Health Organization

PREFACE

I decided to work on this project in October 2019 after hearing Dr. David Duong and Anika Heavener talk about challenges and opportunities of healthcare in Vietnam. I have always been impressed by Vietnam's economic growth and entrepreneurial ecosystem and was curious why healthcare has not witnessed the same progress seen in other sectors. I wanted to make the case for digital health entrepreneurship in Vietnam, to interview entrepreneurs and policymakers, and to synthesize my research into recommendations to incentivize and scale up healthcare entrepreneurship. As I explain in this paper, digital health entrepreneurship in Vietnam is miniscule with only \$7 million in funding in 2019.¹

When I was conducting my research in Vietnam in January 2020, I had no idea that this would be the same month in which Vietnam would discover its first COVID-19 case. Our world has shifted drastically as countries struggle to contain the coronavirus. Despite sharing borders with China and being a major tourism hub, Vietnam has been one of the few countries praised for its successful effort in containing COVID-19.² Some attribute Vietnam's successful response to the country's history with SARS, while others point to Vietnam's authoritarian nature. An article co-authored by Duke University Professor Edmund Malesky and NYU researcher Trang Nguyen argues that Vietnam's success was enabled by its "improving governance and central-local policy coordination."³

The Vietnamese government also relied on various digital tools to address COVID-19. For example, the government partnered with PATH, a global nonprofit, to track COVID-19 data digitally in real-time.⁴ Vietnam leveraged Bluezone, a contact tracing app used to fight the coronavirus, and the Vietnamese authorities used Zalo, a messaging app with more than fifty million users, to communicate key information and warnings.⁵

In response to COVID-19, Vietnamese digital health startups saw a surge in demand and interest. Jio Health, a startup providing on demand access to healthcare services, doubled in demand.⁶ Digital health startups such as BuyMed, which addresses pharmaceutical distribution verification, raised US\$ 2.5 million in pre-Series A.⁷ MedTech startup eDoctor, a platform that offers home healthcare and telemedicine services, raised a new round of funding.⁸

COVID-19 has succeeded in making the case for digital health by increasing government and consumer awareness and trust in digital tools as an alternative to traditional healthcare offerings. For example, in Vietnam and in countries across the world, we all saw the value of telemedicine as hospitals became overwhelmed and private facilities closed.

Vietnam has already shown leadership in how it handled COVID-19 and other countries should take note. Vietnam should continue to show leadership through building an ecosystem that supports digital health entrepreneurs. My hope is that this analysis will be helpful for those in

charge of moving the needle forward in entrepreneurship and in healthcare, and that it will contribute even in a small way to Vietnam achieving its healthcare vision.

1. EXECUTIVE SUMMARY

Vietnam's economic development over the last three decades has been remarkable. Since 1986, when Vietnam launched economic reforms under *Đổi Mới*, the country transitioned from one of the poorest countries to a lower middle-income economy. According to the World Bank, poverty rates in Vietnam significantly declined from 70% to less than 6% between 2002 and 2018 (US\$3.2/day PPP).⁹ Within the same period, Vietnam's GDP per capita grew 270%, reaching \$2,700 in 2018.¹⁰ Vietnam continues to represent a nation of growth with its **young population, strong digital infrastructure, and emerging entrepreneurship ecosystem.**

Despite Vietnam's transition to an emerging economy, the healthcare sector has not witnessed the same progress seen in other sectors. Vietnam continues to face many **challenges**, including chronic crowding at hospitals and shortages of qualified medical staff amid a rapid increase in non-communicable diseases (NCDs) such as diabetes and cancer. In examining healthcare challenges and opportunities in Vietnam, one should consider the entire health value chain, including education, engagement, measurement, access, and delivery.

Vietnam is a country of innovators and entrepreneurs, and this should be leveraged to address the country's healthcare challenges. Most of the startup activity, however, has primarily focused on e-commerce, food tech, and fintech, with little entrepreneurship in healthcare. With the belief that entrepreneurship can play a significant role in the future of healthcare, this research paper aims to better understand the **nascent healthcare entrepreneurship ecosystem** in Vietnam, and to identify recommendations to further enable the creation and scalability of healthcare startups. Entrepreneurs across the world have started addressing healthcare challenges by employing approaches such as telehealth and health information systems to address gaps in healthcare. Like other nations, Vietnam should also utilize its entrepreneurial ecosystem to address its thorny healthcare challenges.

To this end, this research paper answers the following **three questions**:

- What does the **healthcare startup ecosystem** look like in Vietnam?
- What are the **opportunities** and **challenges** facing the healthcare entrepreneurship ecosystem?
- What **changes** can be instituted to support the **creation** and **scalability** of promising healthcare startups in Vietnam?

Methodology: The methodology for this paper consisted of A) open research and B) semi-structured expert interviews conducted both in person in Vietnam and via phone with healthcare entrepreneurs, healthcare experts, private sector stakeholders, and policy makers.

Structure: This white paper starts with a background on healthcare and entrepreneurship in Vietnam, followed by a mapping of the healthcare startup ecosystem and an introduction of key stakeholders in the digital health startup ecosystem. This paper is built on an innovation and ecosystem policy framework proposed by Prof. Fiona Murray and Dr. Phil Budden. The framework is used to assess the opportunities and challenges facing healthcare entrepreneurship. The paper concludes with a series of recommendations to improve the healthcare entrepreneurship system in Vietnam.

Key Findings: Primary and secondary research shows that the healthcare startup ecosystem in Vietnam is **nascent**. Challenges facing healthcare startups include:

- *Foundational institutions:* Vietnam has weak foundational institutions, which include relatively nontransparent institutions and weak intellectual property protections.
- *Infrastructure:* Within digital health, regulations are one of the clearest challenges facing startups, as the digital health regulatory process is relatively opaque and underdeveloped. Vietnam lacks a solid regulatory framework to govern health technology.
- *Demand:* The adoption of new innovative healthcare solutions is particularly challenging in Vietnam's public hospitals, which are highly resistant to change and particularly to digital technology. The ambiguous nature of healthcare regulations also makes private stakeholders less likely to engage with startups.
- *Culture and incentives:* Vietnam has a strong entrepreneurial culture, but this has not translated to the healthcare ecosystem. There is a lack of connection within the digital health startup ecosystem and a critical gap in high-quality mentorship.
- *Funding:* There are promising signs that local, regional, and international funders are gaining interest in Vietnam; however, most of this funding is directed towards areas such as fintech and e-commerce. Interviewees had mixed views on the availability of capital for healthcare entrepreneurship. The changing nature of healthcare technology regulations and the uncertainty it creates makes investors hesitant to invest.
- *Human capital:* Vietnam performs well in international testing. Additionally, Vietnam has a strong supply of high-quality engineering talent. However, the education system in Vietnam can be rigid, does not teach soft skills, does not encourage innovation, and does not equip people with entrepreneurial skills. Within the healthcare field, healthcare

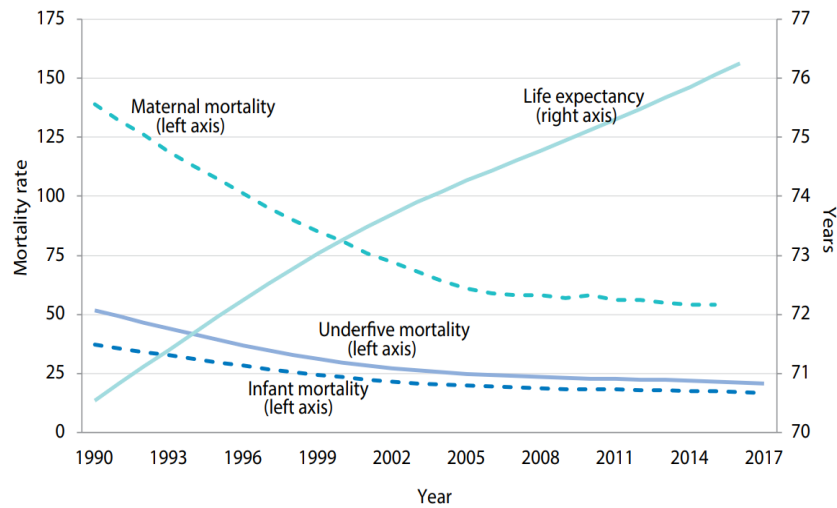
professionals are not trained on how to commercially implement innovative solutions, and there is a clear disconnect between universities and the existing entrepreneurship ecosystem in Vietnam.

Recommendations:

- Remove unnecessary regulatory hurdles that prevent digital healthcare innovations by fostering a regulatory sandbox policy.
- Incentivize entrepreneurship in highly impactful healthcare areas by (1) providing incentives for startups working on critical healthcare issues across the value chain, (2) celebrating impactful healthcare entrepreneurship, and (3) fostering public sector procurement and engagement with healthcare startups.
- Signal commitment to protecting innovations through strong intellectual property mechanisms.
- Train the next generation of healthcare entrepreneurs and innovators through introducing optional entrepreneurial training at universities.
- Build an ecosystem to leverage network effects through increasing collaboration and engagement within the local and regional entrepreneurial ecosystem. This includes creating opportunities for collaboration and mentorship between healthcare entrepreneurs, and entrepreneurs in other sectors.
- Encourage the flow of capital to impactful healthcare enterprises.

2. CONTEXT & PROBLEM

Vietnam has made significant progress in healthcare, **successfully meeting the 2030 Sustainable Development Goals (SDGs) target for mortality reductions**, which includes reducing maternal mortality, under-five mortality, and infant mortality.¹¹ Additionally, Vietnam's life expectancy is 76 years, which is higher than most countries in the region.¹² Access to health services in Vietnam also ranks high on the World Bank's Human Capital Index (HCI) with a score of 0.67, which is higher than Low and Middle Income Countries' (LMIC) average of 0.48 and upper-middle income countries' average of 0.58.¹³



Source: World Bank (2018a).

Healthcare Financing in Vietnam

Vietnam is a LMIC with extremely limited resources and a healthcare per capita spending of \$123.¹⁴ Healthcare expenditure is equally split between domestic government expenditures and private expenditures.¹⁵ More specifically, healthcare financing in Vietnam is driven by three sources: direct government spending, social health insurance, which both the private and public sector contribute to, and out-of-pocket (OOP) expenditures. The public sector plays a crucial role through social health insurance (SHI), which covers 87% of Vietnamese.¹⁶ SHI in Vietnam was introduced in 1992 and has been the primary way of financing public healthcare ever since.¹⁷

The Vietnamese Healthcare System Faces Significant Challenges

Vietnam has achieved remarkable health outcomes, but many challenges remain. An average patient in Vietnam faces many pain points across the healthcare journey, ranging from access to care, quality of care, and the overall experience of care. Pain points include long waiting times at Vietnam's crowded hospitals. There is a shortage of trained physicians and hospital beds; Vietnam has 2.9 beds and 0.8 physicians per 1,000 people, which is significantly less than the OECD averages of 4.7 beds and 3.3 physicians.¹⁸ Vietnamese who live in rural areas, which comprise approximately 65% of Vietnam's population, tend to travel long distances to urban areas for healthcare.¹⁹ After long travel and waiting times, consultations with doctors can be very brief, and doctors often do not have access to the patients' medical records.

The challenges facing the healthcare system in Vietnam continue to evolve. To better understand the healthcare challenges facing Vietnam, the following **key contextual factors** are essential to consider:

- **Underutilized communal health centers:** Vietnam has a huge primary care network, comprising 11,000+ communal health centers (Exhibit 1).²⁰ This huge network, however, is highly underutilized. Many Vietnamese opt instead to seek care at the provincial and national hospitals, which drains resources at both the national and provincial levels, creates major inefficiencies, and incurs significant cost.
- **Increased prevalence of noncommunicable diseases (NCDs):** According to the World Bank, in 2016 NCDs were the cause of 77% of deaths—an increase from 68% in 2010.²¹ Vietnam is facing an increase in NCDs as people adopt unhealthy habits, including leading more sedentary lives, as well as excessively smoking tobacco and binge drinking. In 2015, 47.1% of Vietnamese men aged 15 years or older smoked tobacco, and an average adult in Vietnam consumed 8.6 liters of pure alcohol in 2016.²² The changing nature of diseases as the incidence of NCDs such as diabetes and cancer increases will translate to more demand for healthcare and require different types of long-term care.
- **Growing and aging population:** With a population of approximately 97 million people, Vietnam is the 15th most populous country globally.²³ The population is considered young, with 60% under 56 and a median age of 32.²⁴ This picture will continue to shift. According to the World Bank, the population of Vietnam has been growing and is expected to reach 120 million people around 2050.²⁵ Additionally, the elderly segment of the Vietnamese population is also projected to grow significantly.²⁶ While estimates vary, according to a report by PwC, the segment of the population aged 65 and over will increase from 7% to 21% between 2015 and 2050.²⁷ These demographic transitions are likely to increase demand for healthcare.
- **Large segments (65%) of rural areas:** In 2018, 65% of Vietnamese lived in rural areas.²⁸ There is a stark contrast across urban and rural areas in terms of access to and the quality and affordability of healthcare. For example, Vietnamese doctors are more likely to work in urban areas compared to rural areas, creating a shortage of doctors in rural areas. It is worth noting that Vietnam’s rural population is highly digital, as 89% of the rural population owns a mobile phone and 68% of this group owns a smartphone.²⁹
- **Growing middle class translates into increased demand for healthcare:** According to one estimate, 10% of Vietnamese were considered middle class in 2015, but this is estimated to grow to more than 50% of the population by 2035.³⁰ The growing middle class in Vietnam and the increase in digital literacy are translating to higher demand for quality healthcare and the incorporation of digital health services.³¹

3. OPPORTUNITY

3.1 Vietnam Has a Strong Digital Foundation

The Vietnamese government's efforts to strengthen the Information and Communication Technology (ICT) infrastructure has provided Vietnam with a strong digital foundation. According to the report *The State of Mobile in Rural Vietnam*, Vietnam's mobile communication technologies and internet access are widespread. For example, 89% of rural Vietnamese owned mobile phones, with an average rural user spending approximately three hours on the internet daily, 140 minutes of which are spent instant messaging.³² Additionally, 37 million Vietnamese used Facebook in 2017.³³ Vietnam's young and digitally savvy population, along with its high internet connectivity and mobile penetration, serve as strong enablers for innovations within healthcare.



Figure 2: The State of Mobile in Rural Vietnam Report 2018–2019

3.2 Vietnam Has a Thriving Startup Ecosystem

The Vietnamese rank high in their support of free-market capitalism and their general support for starting new businesses. According to a Pew survey, 95% of Vietnamese are in favor of free-market capitalism, compared to 73% in the United States.³⁴ A 2017 Global Entrepreneurship Report found that 92% of the Vietnamese surveyed believed that starting a business is a good career for them.

It is thus not surprising that Vietnam's startup ecosystem is dynamic and fast growing. In 2017, the number of startups in Vietnam was estimated to be 3,000, making it the third largest startup hub in Southeast Asia following Singapore and Indonesia.³⁵ Cities such as Hanoi, Ho Chi Minh City, and Da Nang have become innovation hubs. While relatively little has been written on Vietnam's entrepreneurial ecosystem, a 2019 book titled *Startup Vietnam: Innovation and Entrepreneurship in the Socialist Republic* describes how Vietnam embraced entrepreneurship and became a leading country within Southeast Asia.

A report titled *Vietnam's Innovation Ecosystem 2019: a Guide to Australian Business* describes how Vietnam's startup ecosystem developed across three waves: the first wave (2004–2007), the second wave (2007–2010), and the third and current wave (2011–present). Within the third wave, the number of startups grew from 400 in 2012 to 3,000 in 2017.³⁶ Throughout this period, foreign venture capital funds as well as large international organizations have also grown more interested in Vietnam.³⁷

Startup growth in Vietnam is partially attributed to the government's effort to support and develop the startup scene in Vietnam. For example, the government designated 2016 as the "Year of Startups," to emphasize the role entrepreneurship can play in improving economic growth. To catalyze the startup ecosystem, the government devised a national policy to support the startup ecosystem (Project 844).³⁸ Among other things, this project attempts to encourage connectivity within the startup ecosystem by developing a national startup portal to connect policy makers, localities, investors, startups, and incubators.

Following the "year of the startup," startup investment deals skyrocketed from 50 in 2016 to 92 in 2017.³⁹ According to a report by the Topica Founder Institute, most of this investment went into fintech, food tech, and e-commerce. In 2017, the startup deal value was \$291 million, 70% of which was absorbed by fintech, food tech, and e-commerce (Exhibit 3).

3.3 Opportunity: The Case for Digital Health Entrepreneurship

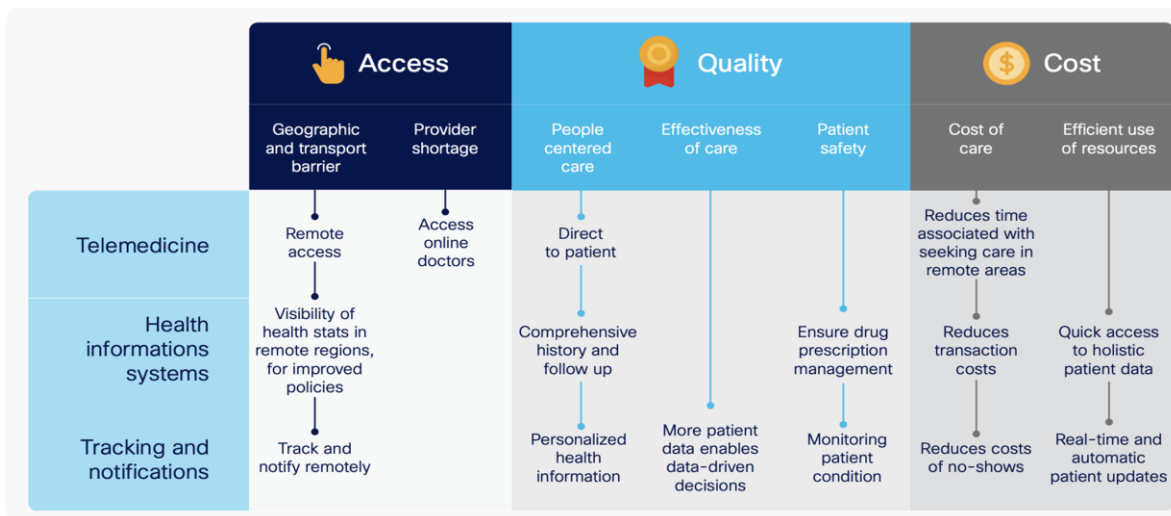
Despite much startup activity, the **healthcare startup** ecosystem remains in its **infancy** in Vietnam. Beth Lopez, co-founder and CEO of Docosan, a startup connecting doctors with patients, describes the healthcare startup space as "super nascent." Duong Phan, founder and CEO of Finizz, a doctor booking platform, echoes Lopez's remarks: "In Vietnam, there are education startups, food startups. Shopping reviews... e-commerce, but in healthcare there are not many leaders. **There are very few healthcare startups.**"

Roeland Roelofs, country president of Novartis in Vietnam, also expressed his surprise at how digital health startup activity is limited in Vietnam. In his words: "I am disappointed in the healthtech and the healthcare startup environment in Vietnam...I'm surprised tech does not work in healthcare—because banking, online experience in shopping...It is all good. Where I do not see

the same tech entrepreneurship is in healthcare... Within healthcare, typically startups are more successful in things like digitizing communication, either between companies and physicians and patients... think of telemedicine, continued medical education. Now, there is very little or none of that.”

As we consider Vietnam’s healthcare challenges, its digital trends, and its entrepreneurial momentum, a clear opportunity emerges. The healthcare sector could benefit from scalable entrepreneurial innovations across its value chain. Startups using digital technologies or low-cost models can fundamentally alter how care is delivered.⁴⁰ Healthcare startup activity can focus on issues ranging from financing, products, technology, service delivery, training, or any other activities that lead to the improvement of healthcare quality or access. Figure 3 shows how digital health solutions could address healthcare access, reduce costs, and improve quality.

- **Access:** With 65% of Vietnam’s population located in rural areas,⁴¹ digital health solutions such as telemedicine can improve access to rural and remote communities.
- **Quality:** Digital health can advance the quality of care. For example, through tracking and notifications, patients can receive personalized healthcare advice. As patient data increases, policy makers and providers can leverage this data to improve healthcare quality.
- **Cost:** Digital health innovations can reduce cost, particularly in the long term. For example, by avoiding a long commute to visit a doctor, telemedicine can save a patient's time and reduce pressure on overcrowded hospitals. Health information systems can also allow professionals to access patient data quickly, which can improve efficiency and reduce costs.



Future 3: CISCO ASEAN Primary Care Development Report

4. KEY QUESTIONS

Digital healthcare entrepreneurship in Vietnam is far from its potential. To this end, this report examines the following **three questions**:

- What does the **healthcare startup ecosystem** look like in Vietnam?
- What are the **opportunities** and **challenges** facing the healthcare entrepreneurship ecosystem?
- What **changes** can be instituted to support the **creation** and **scalability** of promising healthcare startups in Vietnam?

5. METHODOLOGY

The **methodology** for this research consisted of:

- **Open research**: Newspaper articles, blog posts, scholarly pieces, and technical reports on entrepreneurship, digital health, and healthcare entrepreneurship in Vietnam and ASEAN. These include books such as *Startup Vietnam: Innovation & Entrepreneurship in the Socialist Republic*; reports by international organizations such as the World Bank and United Nations; industry reports by PwC, McKinsey, and Galen Health; academic literature on healthcare entrepreneurship; industry and academic reports on innovation; and startup funding databases, including Crunchbase and Pitchbook.
- **Semi-structured interviews**: interviews with founders, academics, private sector players, policy advisors, and healthcare experts were conducted in Vietnam and via phone. Interviewees were selected through a snowball sampling method, in which interviewees were encouraged to refer other relevant interviewees. Additionally, informal chats with experts on healthcare, including two advisors to the Ministry of Health in Vietnam, also informed this report. For privacy and confidentiality purposes, some interviewee names were not included in this paper (see appendix for list of interviewees).

6. HEALTHCARE ENTREPRENEURSHIP IN VIETNAM

Healthcare ≠ Absence of Sickness

Before we dig deeper into mapping healthcare entrepreneurship, one ought to take a step back and ask what is meant by “health” and “healthcare.” Most of us would agree that accessible and high-quality healthcare is crucial, but there is less consensus on how to define and measure “health” and “high quality” healthcare. Recently much attention has been paid to the concept of

“**value-based healthcare**,” which was formalized by Harvard Business School professor Michael Porter.⁴² According to Porter, healthcare stakeholders should strive to improve **value**, and “patients” should be at the center of how value is defined. Porter defines value as “patient health outcomes per dollar spent.”⁴³ As such, both quality and cost matter, and the focus should be on patient outcomes and not on processes. Mohamed Aburawi, CEO of MENA telemedicine startup Speetar, spoke to how healthcare systems need to move beyond “sick care,” as many illnesses can be avoided if systems focus on preventative approaches. As such, through this report, the aim is to examine how the entrepreneurship ecosystem can impact healthcare value **across the care value chain**.

Where Are the Healthcare Entrepreneurs?

Primary research and expert interviews show that the healthcare startup activity in Vietnam is limited. Digital health startups are mostly in the seed stages, are struggling to scale, and have a limited ability to make an impact. Research from online databases, including Crunchbase and Pitchbook, show that the total deal value in Vietnam in 2019 was approximately \$7 million, which is significantly lower than in Indonesia or Singapore.⁴⁴

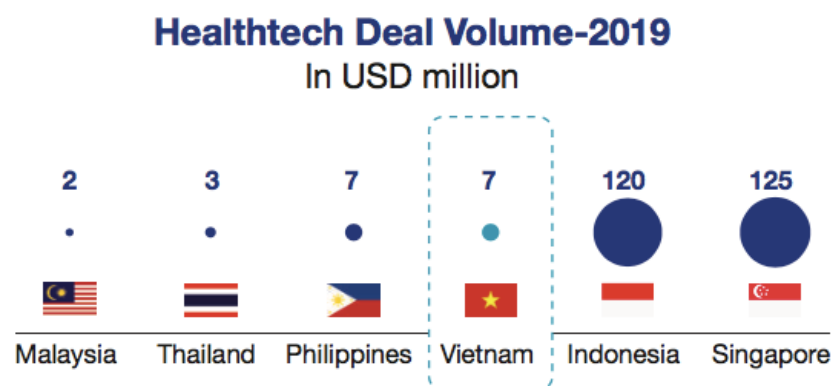


Figure 4: YCP Solidance Report “A Look Forward: How Digitalization is Transforming Vietnam’s Healthcare System”

Even though databases such as Crunchbase and Pitchbook reveal little fundraising activity in health tech in Vietnam, the picture is more nuanced. In an article titled “Vietnam’s HealthTech Renaissance,” Will Greene, a healthcare expert who helped launch mClinica in Vietnam, describes how Vietnam’s digital health space changed between 2017 to 2018.⁴⁵ In his words: “I am noticing a lot more interest in the field. Could this mark the beginning of a HealthTech

Renaissance in Vietnam?”⁴⁶ 90% of interviewees echoed Greene’s comment and mentioned Vietnam’s increasing interest and activity in the digital health space.

Examples of Local Digital Health Startups

Startup activity in Vietnam is clustered in the following areas: telemedicine (examples: VieVie Healthcare and ViCare), pharma supply chain (examples: mClinica and BuyMed), doctor reservations (examples: Finizz and Docosan), and outpatient clinics (example: Med247). No startup activity was found in areas such as drug discovery or clinical trials. Here are examples of digital health startups in Vietnam:

Area: Pharma supply chain

- **BuyMed/Thuocsi:** In Vietnam, it is common for pharmacies to purchase from unlicensed agents. To tackle this, healthcare professionals spend a lot of time sourcing drugs. BuyMed is a business-to-business (B2B) pharma distribution marketplace founded in 2017 with the mission to leverage technology to solve the issue of fraud and verification in pharma supplies. BuyMed has connected over 2,000 healthcare providers with verified suppliers. BuyMed won “Best Startup” at Seedstars Vietnam 2018, raised \$0.5 million in seed funding in September 2019, and raised \$2.5 million in a pre-series A round in April 2020.

Area: Outpatient clinics and health tech

- **Med247:** Med247 is a local startup founded in 2019 in Hanoi. The startup operates clinics, as well as a technology platform where patients can make appointments, access medical records, or receive consultations online. In 2019, the startup received seed funding (an undisclosed amount) from KK Fund and angel investor Jin Hian Goh to open new clinics.

Area: Telemedicine

- **VieVie Healthcare:** VieVie healthcare is a telemedicine company launched in 2017. The key investor in VieVie healthcare has been Clermont Group, a private investment group based in Singapore. Clermont owns Hoan My Medical Corporation, one of the largest private healthcare networks in Vietnam. As such, one of VieVie’s competitive advantages is its partnership with Hoan My Medical, a partnership which allows VieVie’s online services to be integrated with the hospital network.

Area: Doctor booking

- **Finizz:** Finizz is a doctor booking platform founded in Ho Chi Minh City in 2015. The company aims to address lack of information in the Vietnamese healthcare industry. According to Duong Phan, Finizz’s co-founder, Finizz has thousands of monthly

bookings. In terms of its fundraising, the company raised \$150,000 from an undisclosed angel investor in November 2016, and an additional \$200,000 from an undisclosed angel investor in January 2019.

Digital Health Investors

Even though investment is limited in the healthcare startup space in Vietnam, the following investors were identified as active in the last five years. “Active” in this context is defined as having contributed to one investment in the healthcare space.

Startup	Stage	Last Funding Date	Investors	Amount
Jio Health	Series A	2019	Monk’s Hill Venture	\$5,000,000
BuyMed	Seed	2020	Surge and Genesia Ventures	\$2,500,000
Wellcare	Seed	2019	Victoria Healthcare Vietnam, Phong Nguyen, Minjie Yu, Dung Ly, GheeHoe Cheng	\$121,191
ViCare	-	-	CyberAgent & Pine Vine Capital	-
eDoctor		2020	CyberAgent Capital, Genesia Ventures, Bon Angels Venture Partners, and Nextrans	-
Med247	Seed	2019	KK Fund & an angel investor	-

Data from Crunchbase & Pitchbook

7. STAKEHOLDERS

Digital health startups exist within a wider ecosystem which consists of different stakeholders. As such, when thinking about the opportunities and challenges facing the healthcare entrepreneurial space, we need to examine the role of different stakeholders.

The following **stakeholders** play a role in Vietnam’s healthcare entrepreneurial ecosystem: funders, the government (with its various levels), public hospitals, universities, and the corporate sector.

- **Entrepreneurs:** Entrepreneurs can serve as mentors, both formally and informally, and provide resources to support others. In Vietnam, however, digital health entrepreneurs are disconnected from each other and from other ecosystem players.

- **Funders:** There are promising funding streams across the spectrum, including venture capital, angel investing, impact investing, and crowdfunding options. Funders not only play a role in providing capital, but they can also mentor and support entrepreneurs and connect them with the necessary resources.
- **The government:** Governments can play a role in supporting innovation and entrepreneurship. It is worth noting that the term government refers to a multitude of players across the different levels of government who can play a role in supporting healthcare entrepreneurship.
- **Corporate sector:** Corporations can play a significant role in an entrepreneurial ecosystem, as strategic alliance partners or as funders through corporate venture capital. Vietnam has several local and international ICT and healthcare companies.
- **Universities:** Universities can play a crucial role in fostering innovation and entrepreneurship ecosystems. In the US, universities such as Harvard, MIT, and Stanford played a critical role in the emergence of ecosystems around them. Universities can influence the entrepreneurial and innovation ecosystem through research, courses, internship offerings, and the mindset that universities instill. While universities in Vietnam do not typically prioritize entrepreneurship, I learned of two efforts which seem promising. First, the Ho Chi Minh City Medicine and Pharmacy University began to introduce entrepreneurship into the healthcare space through an Innovation Center. Second, the Center for Entrepreneurship and Innovation at Fulbright University Vietnam is also focused on strengthening the entrepreneurship ecosystem within and beyond the university.⁴⁷
- **Healthcare providers:** Healthcare providers can engage with startups. In Vietnam, private hospitals are more likely to adopt health technology solutions, as they hope to improve the patient experience and reduce costs.¹ On the other hand, public hospitals in Vietnam tend to be more resistant to these types of collaborations.²
- **Citizen-sector organizations:** The term CSOs refers to “the millions of groups established and run by mission-minded individuals across the globe who are attempting to address critical social needs.”⁴⁸ CSOs are connected to communities and can play a key role in driving scalable bottom up approaches. Additionally, partnerships between for-profit organizations and citizen sector organizations - hybrid organizations – can play a key role in addressing healthcare challenges.

¹ Private hospitals include Vinmec Healthcare System, Hoan My Medical Corporation, Tam Tri, Phuong Chau, Xuyen A, and My Duc.

² Public hospitals include Bach Mai Hospital, Viet Duc, K Hospital, Cho Ray, and the National Geriatric Hospital.

8. BARRIERS FACING HEALTHCARE ENTREPRENEURS

8.1 Theoretical Foundation

What are the barriers and opportunities facing healthcare entrepreneurs? What factors should Vietnam examine if it wants to assess the challenges and opportunities facing the digital health ecosystem? For a systemic assessment of this question, I utilize the work of Prof. Fiona Murray and Dr. Phil Budden of the MIT Sloan School of Management, which attempts to answer the question of why innovation and entrepreneurship tends to be clustered in some regions.⁴⁹ Budden and Murray’s framework makes key distinctions that are helpful in the case of Vietnam. First, their framework distinguishes between ‘innovation’ and ‘entrepreneurship’ as different capacities within a system.

- *Innovation capacity (I-CAP)*: Innovation capacity is defined as “the capacity of a place – a city, a region or a nation - to develop those new-to-the-world ideas and to take them from inception to impact.”⁵⁰ Indicators for a thriving innovation capacity include spending on research and development (R&D), research publications, and patents filed.
- *Entrepreneurship capacity (E-CAP)*: Entrepreneurship capacity refers to the business ecosystem, including the formation of new enterprises from starting to scaling. MIT’s framework makes a distinction between traditional Small and Medium Enterprises (SMEs) and what is referred to as “IDEs” (**Innovation-driven Enterprises**). The latter are enterprises that tend to provide solutions to critical societal problems and thus offer high social impact.

The two capacities—innovation and entrepreneurship—are intricately linked, and Vietnam should undoubtedly focus on both capacities. However, this report specifically addresses Vietnam’s entrepreneurship capacity in supporting the formation and scalability of **IDEs** within **healthcare**.

According to Budden and Murray, in addition to key foundational institutions, there are five inputs that are critical to assessing and strengthening entrepreneurial capacity: infrastructure, demand, incentives/culture, funding, and human capital. These five inputs are crucial for a better business environment, especially one that supports the creation and scalability of IDEs. Strengthening entrepreneurship capacity in digital health in Vietnam requires 1) an understanding of the weaknesses and strengths in these five areas, and 2) a coordination of interrelated policies that address each of the five dimensions.

- **Infrastructure** includes the availability of physical infrastructure, including spaces, to support the different stages of entrepreneurship.

- **Demand** considers the market’s appetite for the solutions or products of entrepreneurial endeavors.
- **Culture and incentives** considers the strength of connections across the digital health entrepreneurship community, as well as social attitudes and perceptions of healthcare entrepreneurs’ career paths.
- **Funding** examines the level of availability for different types of risk capital to support the creation and scalability of new enterprises.
- **Human capital** assesses the human capital present in Vietnam including educational quality and entrepreneurship skills.

The framework proposed by Budden and Murray assumes that entrepreneurial capacity, with its five critical dimensions, is built on **foundational institutions** (see Figure 4 below). Foundational institutions comprise a strong rule of law including the protection of intellectual property, general accountability, enforceable contracts, credible regulatory bodies, and a general lack of corruption. While in some “developed” countries these foundations tend to be taken for granted, many emerging countries can have weak legal, governmental, and institutional protections.⁵¹

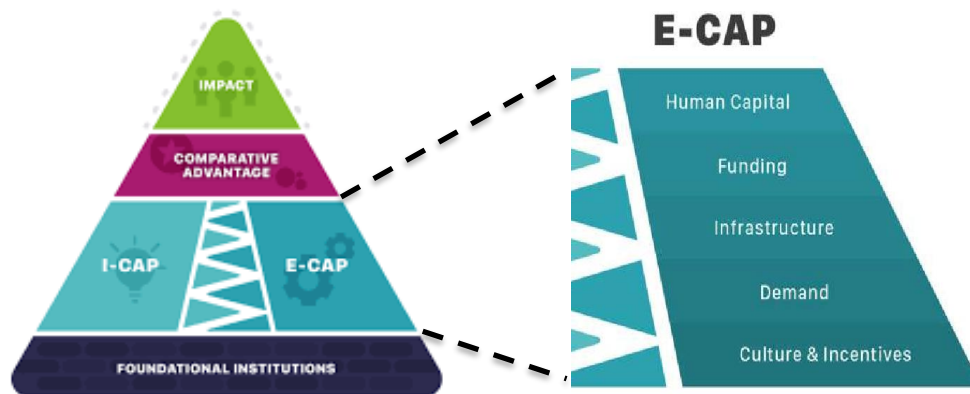


Figure 5: Framework for Innovation Ecosystem Policy Proposed by Budden and Murray

8.2 Assessing Vietnam’s Healthcare Entrepreneurial Ecosystem Through MIT’s Framework

To better understand why there is little healthcare entrepreneurship in Vietnam, interviewees were asked to identify the challenges currently facing healthcare startups. While interviews were semi-structured, MIT’s Innovation Ecosystem framework was the main framework for the questions asked. As such, takeaways from interviews are clustered into the following categories: 1) foundational institutions, 2) human capital, 3) funding, 4) infrastructure, 5) demand, and 6) culture and incentives.

8.2.1 Foundational Institutions

Healthcare entrepreneurs in Vietnam grapple with a **nontransparent** and relatively **corrupt system** as well as **weak protections of intellectual property**.

The opaqueness of the regulatory system has meant that there is more reliance on “**middlemen**” to navigate complicated processes, which incurs additional costs for entrepreneurs and can delay or hamper processes. While most interviewees seemed to tread lightly around this issue by carefully referencing “middlemen,” one interviewee expressed their frustration with corruption: “Healthcare is managed by the government. So you need connections—is your father a powerful person? You need money to be able to pay these bribes. There is also a distinction between foreign versus local founders. If you are local, they expect you to know the implicit rules—the bribes for example. You should know how to read between the lines.”

Another issue that healthcare entrepreneurs face is the weakness of **Vietnam’s intellectual property enforcement**. According to an interviewee: “We do not have scaleups. We do not have IP laws—anything created can be copied.” Vietnam needs strong intellectual property protections to foster entrepreneurship, especially in areas such as healthcare.

It is worth noting that countless entrepreneurs across developing countries, including those in Vietnam, have been able to navigate weak foundational institutions, particularly through building their own trusted network and finding dependable employees and partners. However, the strength of a sustainable ecosystem relies on its foundational institutions, and it is thus crucial for Vietnam to do more to strengthen those foundational institutions.

8.2.2 Infrastructure

Vietnam was ranked 70th out of 190 countries in the 2019 World Bank’s ease of business score, lower than Malaysia (12), Singapore (2), or Thailand (21).⁵² Vietnam has made progress in areas such as access to credit and tax reform. One area where **Vietnam scores poorly is “starting a business,”** with a rank of 115 out of 190 countries. Indeed, some interviewees pointed to some of the challenges of starting a healthcare startup in Vietnam.

For example, while most local founders mentioned how easy and quick it is to register a company, interviewees were quick to mention that the registration process is more cumbersome for foreign founders. **Foreign founders** felt confused by the process and **relied on middlemen** for support. Most entrepreneurs, both local and foreign, mentioned relying on external servicing companies to perform the registration process for them.

Another difficulty some entrepreneurs face is the **difficulty of shipping to Vietnam**, particularly shipping scientific equipment easily. One entrepreneur noted that “you cannot do world class research in biology or in anything if there is no free flow of physical equipment; if it takes three months to get a testing kit here, but it takes one day to get it if you are in the US, there is clearly a difference.”

While these challenges are shared with other sectors, some infrastructure challenges are particular to healthcare. For example, despite its growing interest and commitment, Vietnam still **lacks a solid regulatory framework and standards governing health technology**. As such, regulations are a major challenge facing digital health entrepreneurs. Huynh Phuong Thọ Alain, co-founder of eDoctor expressed this clearly: “The law is not very clear yet. Ministries keep changing the regulations, especially in the medical equipment area. Things keep changing all the time. There is not clear regulation on telemedicine and whether you can give prescriptions online.” Another interviewee echoed Alain’s comment saying that “in telemedicine, **you never know if you are breaking the law if you get audited.**”

The unclear and unpredictable nature of digital regulations negatively impacts the funding available for startups, as well as levels of demand. Unclear regulations make **investors uncertain and hesitant to invest**. Similarly, private stakeholders are probably less likely to engage with startups in a space where regulations are ambiguous and ever-changing.

8.2.3 Demand

As Vietnam is transitioning into an emerging economy, different stakeholders have begun to recognize the *promise* in digital health solutions. However, digital health startups (and digital health solutions broadly) still face resistance and challenges.

One of the main barriers for healthcare entrepreneurs is that **healthcare professionals tend to be uncomfortable with new technology and solutions**. Interviewees mentioned how traditional the healthcare sector, particularly the public side, can be. The common mentality is a **conservative** one that stifles the adoption of new ways of doing things. Duc Pham, founder of ViCare, articulates this sentiment: “Healthcare is a very traditional and conservative industry. It makes me think of my dad when I started ViCare. His first reaction was that it will not work; he said, ‘Do not do it.’ That is how doctors think in Vietnam.” Huynh Phuong Thọ Alain, co-founder of eDoctor, echoed Pham’s point: “It is not always about what you want to do. It must be compatible with industry standards, and there is some risk, especially in healthcare. In health, our stakeholders are doctors and hospitals. Doctors by their career choice are conservatives. It takes a lot to change them.”

While the private segment within the healthcare system is growing, the healthcare system in Vietnam continues to be dominated by the public sector. According to an entrepreneur: “If you want healthcare entrepreneurs to thrive and scale up, they need partnerships with the public sector.” Roeland Roelofs, country president of Novartis in Vietnam, shared a similar view: “How you make money may be more complicated in healthcare [startups], unless the public sector adopts it. How good is that public system in adopting and delivering technology?” While demand for digital health solutions can stem from the private sector or directly from consumers, it is essential to consider **the lack of demand from the public side**. Simply put, healthcare systems across public hospitals are particularly conservative and **lack IT readiness**, and many healthcare professionals continue to prefer paper documentation.

Additionally, even if mindsets shifted to embrace technological solutions in healthcare, and even if IT readiness improves, potential collaboration with the public side tends to be limited to people who are well connected with the government. Private-public partnerships are challenging to establish—which is a barrier that healthcare startups face. However, public-private partnerships are necessary to allow the startup community to raise regulatory challenges as well as envision a future where their solutions could be adopted and deployed by the public side of healthcare.

With regards to the weak (but growing) demand from the private side, two factors are worth considering. While the private sector tends to be more open to deploying new technologies, digital healthcare solutions are still relatively new for them. Secondly, **the ambiguous nature of health technology regulations can make private sector stakeholders more hesitant to engage with startups**. Quynh Anh Nguyen, a business management director at Hoan My Medical Corporation, one of Vietnam’s leading private healthcare networks, put this clearly: “Recently a couple of startups tried to build a solution for booking for patients. Others tried to do AI in medicine but we the hospitals cannot go along with startups. We are unsure about regulations. So, yeah, we did not do the partnership because regulations are unclear.”

8.2.4 Culture and Incentives

Vietnam has a strong entrepreneurial culture, but this has not translated to the healthcare ecosystem. Ho Chi Minh City (HCMC) is the center of entrepreneurship in Vietnam, serving as Vietnam’s innovation hub. Yet, even in HCMC there is a general **lack of connection within the emerging digital health startup ecosystem**. The partnerships necessary to incentivize healthcare entrepreneurship are simply not there yet. For example, while Vietnam has many accelerators, none are specifically focused on the healthcare sector. Additionally, there is a lack of connection between research and medical universities and the larger entrepreneurial ecosystem.

There is a critical gap in high-quality mentorship. When asked about whether they participated in any formal mentorship program, interviewees mentioned that they relied on their network and friends for support. Entrepreneurs who succeeded in raising some funds mentioned how initial investors were helpful in connecting them to additional sources of funding. In general, most entrepreneurs received little to no support in building and scaling their enterprises. Despite this, entrepreneurs spoke to the value of mentors who can offer guidance and connect entrepreneurs with resources. Hoang Nguyen, CTO and co-founder of BuyMed, drives this point home:

When the company grows to a certain level, say fifty people, you need managers. You need to create policies and processes, and that is difficult. It is difficult to recruit those people. It is easy to acquire 1–100 customers. But to build processes to acquire 1,000 or 2,000 is more difficult. There is a lack of an ecosystem...of people who have done this before, who can build logistics, deliver...and who can advise us on how to set these things up. All of this is not new, manufacturing, logistics, etc. There is a template, but we do not have it. People do not share it publicly. I rely on my network...I have friends, my investors...but I would not say there is an ecosystem of sharing and mentorship.

8.2.5 Funding

There are many promising signs that local, regional, and international funders are growing more interested in investing in Vietnam. In 2019, Vietnam received 18% of the total tech startup funding within Southeast Asia, with Vietnam's total funding for tech startups exceeding that of Singapore (\$741 million compared to \$693 million).⁵³ Active venture capital investors include IDG Capital, Monk's Hill's Ventures, Cyberagent Capital, Patamar Capital, and Vina Capital. For seed and pre-seed funding, there are a few local and international players including 500 startups. Additionally, it was clear from interviews that a group of angel investors are engaging with the digital health startup ecosystem, though names remain undisclosed.

Startup investing in Vietnam is primarily focused on technology entrepreneurship, particularly in e-commerce and fintech. While interviewees spoke to the local and foreign funding resources that are available in Vietnam, they differed in their views regarding the availability of funding for digital health startups; approximately 50% believed that funding is available when the startup is ready, while the other half stated that the healthcare sector faces unique challenges that could negatively affect access to capital. When asked to clarify, some interviewees cited the changing nature of health technology regulations and the uncertainty it creates, which make healthcare technology investments riskier.

Healthcare entrepreneurs typically relied on their own network to find investors. Interviewees and secondary research also highlighted the presence of a network of angel investors. However, as there are no formal requirements for angel investing, high net worth individuals serving as

angel investors tend to be inexperienced and risk averse. As many angel investors are not former entrepreneurs, they may not have the skills necessary for support and mentorship after investing.

Some interviewees also pointed to how local investors are perceived to be more risk averse, less startup friendly, and “more controlling of founders.” When asked why this might be the case, different explanations emerged. Duong Phan, co-founder of Finizz, a doctor booking platform founded in 2015, posited that the startup scene in Vietnam is relatively new. Local investors are not as experienced in assessing risk and opportunity, and thus will be less likely to take these risks. Phan believes that this mentality will gradually shift as early-stage investments become more common. Theodore Kim, an American entrepreneur who has been living in Ho Chi Minh City for 14 years, pointed to Vietnam’s long history of war and instability. In his words:

Vietnam had a very tough time. The Chinese were here. The French. The Americans. There were more bombs dropped in Vietnam than in all of WWII. If you look at ALL the bombs in World War II, it is less than bombs dropped in this country. It was a tough, tough time. After the Vietnam war, they had about 15 years of terrible economic management. Vietnamese people starved. Because of that, trust is not high on people’s lists.

I mean...business relies on trust. Young people are not abused too much. They have faith in humanity. If you do not have faith in humanity, why would you give your money to someone promising you something? So local investors are more cynical about this kind of thing. Foreigners are more willing to take risks, although sometimes they do not quite understand the real risks.

Another key concern in Vietnam’s funding ecosystem—which is not unique to Vietnam—is that raising funds and doing business are easier for the well connected, those who studied abroad, and/or those who speak English.

8.2.6 Human Capital

With caveats, most interviewees agreed that education, at least until high school “works OK.” Indeed, one area where the Vietnamese perform well is standardized tests. Vietnam ranks high on the Program for International Student Assessment (PISA), an international reading, math, and science test taken by 15-year-old students.⁵⁴ With regards to the PISA, Vietnam is an interesting outlier, outperforming other countries such as the United Kingdom and the United States.⁵⁵ While concerns have been raised regarding the representativeness of Vietnam’s samples, the Center for Global Development asserts that “even with these [statistical] adjustments, Vietnam remains a positive outlier in absolute scores conditional on its low level of GDP.”⁵⁶

Interviewees were also quick to mention how the **educational system can be rigid**, and that universities do not equip students well. When asked to clarify, two interviewees mentioned the

lack of emphasis on hands-on experiences, including internships. Some interviewees pointed to how the education system does not foster an entrepreneurial and innovative mindset. One interviewee spoke to the challenges facing higher education in Vietnam. They said:

Vietnam has two important things: talent and ambition, but higher education sucks...In Vietnam...in high school, there is a “big test” and some scoring. Based on those, you go to various universities that are ranked. I found that that test is a pretty good predictor. But I’ve also heard from people who scored high on the test and joined highly ranked universities that they HATE it. They do not learn; classes are poorly taught, but we have hired people from there and they are smart. Even if they do not learn anything there, it is not important... There are serious issues—corruption, favoritism, they do not pay teachers well. But teachers have a high social standing—not like in the US. The education system is rigid, too ossified. Vietnam is also way behind on the sciences—again, pretty good up until high school, but it falls apart, and part of that is because of the government.

Regardless of how interviewees viewed the education system in Vietnam, most interviewees were quick to mention **the strong supply of high-quality engineering talent**. In an interviewee’s words: “Like in China and India, we have good technical software developers because we have good CS programs.” Docosan CEO Beth Lopez shared a similar opinion saying: “There is an amazing tech talent. Very smart.”

While most interviewees praised Vietnam’s strong engineering talent, three interviewees commented on how engineers tend to **lack “soft” skills** and a **“product” mindset**. When asked to clarify, interviewees mentioned how skills such as professionalism, communication, and interpersonal skills are not emphasized in Vietnam’s educational system. For example, Duc Pham, Founder of ViCare (while cautioning against generalizations) mentioned how engineers are trained to execute but not necessarily to craft a vision and to innovate. In his words:

Vietnam has good engineers. The problem is that Vietnam started as an outsourcing hub, so most engineers do not have a product mindset. They think like an outsourcer. For example, they do not think about users, but they write code on specs they are given...It is hard for universities to teach this mentality – the ecosystem needs to develop; the more people work in startups, the more they see there are different paths. Right now, the outsourcing path is the common path.

With regards to healthcare, health professionals in Vietnam are not trained on how to commercially implement solutions. However, there are signs of change. A recent initiative by the Ho Chi Minh City Medicine and Pharmacy University began to introduce entrepreneurship into the healthcare space through an Innovation Center. This initiative aims to build a culture that supports entrepreneurship within healthcare. During my visit to the Innovation Center, its

director, Dr. An Pham Le, gave me a tour and spoke passionately about how the center aims to support innovation in health science, including in startups. While the center’s work is relatively recent, it is a sign of hope to see entrepreneurship and innovation being recognized at a medical university.

Notably, one interviewee specifically commented on how resources on entrepreneurship and funding on the internet tend to be in English, and how Vietnamese who speak English are able to tap into these resources more easily, which can put non-English-speaking entrepreneurs at a disadvantage.

Two additional challenges that some interviewees voiced, which are particularly relevant for international entrepreneurs, are a complicated entrepreneurship visa process and language challenges. The entrepreneur visa, which could be used to incentivize talent in Vietnam, has many strings and conditions attached. Additionally, the process of obtaining the visa can be complicated, and some agencies act as middlemen which can be costly. Improvements in visa processes could incentivize the right talent to be based in Vietnam. International founders also mentioned how language can be a barrier, with two entrepreneurs commenting on how English fluency in Vietnam is much lower than that of neighboring countries in the region.

Female founders: As in many developed and emerging countries, women are underrepresented in Vietnam’s entrepreneurship ecosystem. Only 2 out of the 26 digital health startups identified are led by women. I was surprised when one interviewee mentioned, “Women can do business. But not startups. It is too much running around.” I believe that it is necessary for Vietnam to leverage the talent of women entrepreneurs to address healthcare challenges. Different ecosystem players should strive to advocate for female entrepreneurship as well as women leadership in healthcare and digital health.

9. RECOMMENDATIONS

How Can Vietnam Advance Healthcare Entrepreneurship?

The overarching goal of the following recommendations is to improve the digital health startup ecosystem in Vietnam. Vietnam has strong enablers, including its digitally savvy consumers and its thriving startup culture in other sectors. Additionally, Vietnam’s leadership is committed to achieving universal health coverage and to supporting the creation and development of digital health entrepreneurial solutions to address the country’s healthcare challenges.

Goal: Establish a regulatory infrastructure that supports innovation

The regulatory frameworks surrounding digital health are still evolving. Policy makers in Vietnam should prioritize establishing a regulatory infrastructure that supports innovations in healthcare without compromising privacy and security. Regulations can play a pivotal role in lowering barriers to new entrants, reducing the cost for existing players, and increasing investment interest.

➤ **Action: Launch digital health regulatory sandbox policies**

The healthcare regulatory environment is complex to navigate. The government of Vietnam should consider launching a regulatory sandbox initiative to encourage innovation while balancing risk. This would allow startups to experiment with new solutions. It will also help policy makers understand new digital health technologies and engage with players from the startup ecosystem. This will help inform appropriate regulations that balance privacy and security concerns with support for innovation.

Precedent: Regulatory sandboxes have been tested out in other contexts. For example, in 2018 Singapore launched a regulatory sandbox initiative to encourage innovation in telemedicine, with oversight from the Ministry of Health.⁵⁷ Miguel Rivera, Business Model Transformation Head at Novartis, spoke to the value of sandbox policies in digital health: “In Vietnam, right now there are no clear rules of the game and people get confused. There needs to be a regulatory sandbox, an environment where innovation is allowed, a one-stop shop for health tech innovations. Singapore is a good example.”

Another example for Vietnam to examine is the UK’s launch of its first fintech regulatory sandbox in 2016.⁵⁸ According to the UK’s financial conduct authority, the sandbox policies had many benefits for both startups and policymakers.⁵⁹ Startups were able to test out products faster and were more informed because they gained access to sandbox regulatory expertise. Additionally, the collaboration between policy makers and startups encouraged startups to implement more consumer protections and allowed policy makers to share knowledge about minimizing cyber risks.

Goal: Incentivize entrepreneurship in highly impactful healthcare areas

➤ **Action: Partner with private sector stakeholders to create a digital health innovation lab in Ho Chi Minh City**

This innovation lab will make it easier for healthcare entrepreneurs to connect with each other and with strategic partners, academics, healthcare experts, civil society, and policy makers. Healthcare startups will receive the support they need and will be able to directly connect with relevant policy stakeholders and potentially inform policymaking. For example, the lab could engage with universities such as Vietnam National University and

the Ho Chi Minh University of Technology. It is also critical for the lab to engage with networks of angel investors, impact funders, and venture capital. This digital health lab could be a space where mentorship, gatherings, research briefings, and startup pitches could take place. In short, the lab will serve as a link between the different stakeholders.

➤ **Action: Encourage collaboration with citizen-sector organizations**

Including citizen-sector organizations as a key stakeholder and building meaningful partnerships with them is critical to improve health and health systems. A case in point is the development of Aurolab, a nonprofit in India, which produces intraocular lenses that can restore sight to patients.⁶⁰ Aurolab manufactured the intraocular lenses for Aravind Eye Hospital, which is one of the largest eye care centers in the world renowned for charging patients per their ability to pay. Aurolab drastically changed eye care in India as it significantly reduced the price of an intraocular lens and was able capture 8% of the global market as it expanded to over 100 countries. Collaborations and partnerships among different stakeholders including the citizen sector are key to addressing Vietnam's healthcare challenges.

➤ **Action: Provide incentives for impactful startups**

Universities and the government can incentivize startups addressing critical healthcare needs and startups serving the bottom of the pyramid consumers. Incentives could include offering small grants to promising early-stage social enterprises. This could encourage startups to pursue work on pressing healthcare issues.

➤ **Action: Foster public sector procurement**

Interviewees commented on how rare it is for the public sector to adopt digital health solutions and to engage with startups. Vietnam should consider how to better encourage the gradual adoption of innovations from its startup community into public hospitals.

Goal: Leverage Vietnam's existing resources to support healthcare entrepreneurship

➤ **Action: Create opportunities for entrepreneurs across different sectors to share learnings**

Entrepreneurship in fintech, ecommerce and food tech is more common in Vietnam. As such, it is important to create opportunities for collaboration and mentorship with stakeholders across sectors. For example, entrepreneurs from sectors as varied as fintech and ride hailing can share knowledge and expertise about how they built and scaled their enterprises. Healthcare entrepreneurs in Vietnam can also create meaningful partnerships to build upon innovations in other sectors including fintech, education technology,

ecommerce, and ridesharing. For example, one healthcare entrepreneur explained how important efficient payment systems are for a telemedicine startup, while another entrepreneur mentioned how developments in ecommerce can be leveraged to distribute medical supplies. Similarly, consider how ride hailing technologies can be used for medical transportation, or how digital educational tools can be used to raise awareness about wellbeing or prevention. In short, healthcare entrepreneurship should not be viewed as an isolated sector; entrepreneurs in other sectors can support healthcare entrepreneurs and innovations in other sectors can unlock new opportunities for healthcare entrepreneurship.

➤ **Action: Prioritize supporting digital health startups through the Primary Care Alliance**

In 2019, the Vietnam Ministry of Health partnered with Harvard Medical School, Novartis, and other stakeholders to address challenges within primary healthcare, with the goal of achieving universal health coverage.⁶¹ The Primary Care Alliance prioritizes value-driven care, and their Memorandum of Understanding (MOU) covers a variety of issues, including community participation to support healthy lifestyles, enhancing knowledge on health issues, managing chronic diseases effectively, and continuously monitoring and evaluating interventions. The Primary Care Alliance should prioritize supporting digital health startups working on addressing primary care challenges.

Goal: Accelerate the commercialization of research

➤ **Action: Develop and enforce strong intellectual property rules**

One common theme from interviews was Vietnam's lack of strong intellectual property protections. To accelerate the commercialization of research, and to encourage innovation and entrepreneurship more broadly, clear and enforceable intellectual property protections are critical.

Goal: Encourage the flow of capital to healthcare enterprises

➤ **Action: Encourage risk capital**

There are a variety of risk capital resources, including venture capital, angel investing, impact funds, accelerators, and banks. Policy levers should be leveraged to encourage the flow of capital into innovative healthcare startups across the lifecycle from launching to scaling. Vietnam should engage with different risk capital providers to assess blockers and enablers. One example for Vietnam to consider is how Singapore proactively included different risk capital stakeholders during the country's work in building its innovation and entrepreneurial capacity.⁶²

Goal: Train the next generation of healthcare entrepreneurs and innovators

Vietnam's investment in human capital is clear, as indicated by the country's high-test scores and the abundance of high-caliber engineering talent. However, a recurring theme in interviews was that universities are rigid and do not teach entrepreneurship skills. Additionally, universities are not well connected to the larger entrepreneurial ecosystem.

➤ **Action: Introduce optional entrepreneurial training at universities**

Vietnam could benefit from offering more optional courses in entrepreneurship across its undergraduate universities. Vietnam can look to universities such as MIT, which offers an undergraduate minor in Entrepreneurship and Innovation. Some private universities such as Fulbright University offer this type of training. Public universities should also consider teaching entrepreneurship. This module could be piloted at top medical universities in Hanoi, Da Nang, and Ho Chi Minh City. The module should specifically focus on how to commercialize research and innovate within healthcare.

➤ **Action: Encourage universities to start digital health hackathons**

Hackathons are a good opportunity for multidisciplinary collaboration among engineers, healthcare professionals, designers, and business students. Hackathons can be an effective way to train students to collaborate, think entrepreneurially, and consider how they might engage with the healthcare space. One entrepreneur pointed to how hackathons can also be a good opportunity to shed light on particularly challenging and impactful healthcare problems, such as the underutilization of primary care in Vietnam.

10. FUTURE RESEARCH

This paper began by reviewing the opportunities and challenges in Vietnam's healthcare sector. With the belief that digital health startups can significantly contribute to solving Vietnam's healthcare challenges, we examined the challenges and opportunities facing the healthcare startup ecosystem in Vietnam using Budden and Murray's framework. Finally, we introduced different recommendations to improve the healthcare entrepreneurial ecosystem in Vietnam.

Future research should focus on mapping out the exact government structure, both locally and centrally, to assess blockers and opportunities to enable the implementation of the recommendations. Additional research is also needed to outline specific guidelines for implementation for each key stakeholder, which includes assessing sequencing and pacing. For prioritization and pacing, we recommend that each stakeholder assess the different recommendations against the following criteria: impact in supporting the healthcare

entrepreneurial ecosystem, impact on addressing critical healthcare needs, operational capacity of each stakeholder, political feasibility and blockers, as well as an assessment of the financial impact of each recommendation with regards to specific stakeholders.

Further research is also needed to address how civil society in Vietnam can be leveraged to tackle healthcare challenges. Key questions include: What role has civil society played in improving health and health systems in Vietnam? How can Vietnam leverage civil society's deep connections to communities to voice problems and share insights? How should policy makers, innovation-driven entrepreneurs, investors, and universities better engage with civil society?

11. CONCLUDING THOUGHTS

When I started this research back in October 2019, digital health was discussed in a few circles among digital health enthusiasts, a few policymakers, and some entrepreneurs. Over the past 6 months, the unprecedented global health crisis brought by COVID-19 put a spotlight on our debilitated healthcare systems. As traditional healthcare solutions became visibly stretched, different digital health tools were adopted to strengthen healthcare systems. Personally, I witnessed how doctors in my family in Egypt adopted telemedicine, and how sick family members became more accepting of remote monitoring. In my view, the case for digital health entrepreneurship did not need a pandemic—yet a silver lining of this terrible pandemic is that we came to the realization that care is not limited to in-person and centralized care, and that technology and entrepreneurship can and should be leveraged to address healthcare access, quality, and cost. One cannot help but wonder how digital health and healthcare entrepreneurship will look like in our post-coronavirus world. My bet (and my hope) is that we will see increased adoption and acceptance of the role of technology in healthcare. Vietnam has already shown strong leadership in how it handled the coronavirus pandemic. I am particularly hopeful for Vietnam – with its digitally savvy population and its strong entrepreneurial culture – to be a leader in creating a strong digital health entrepreneurship ecosystem.

12. APPENDIX

Funding & Advisors

Research for this paper was conducted in partial fulfillment of the requirement for a degree of Master of Public Policy at the Harvard Kennedy school. This research was advised by Carl Byers and John Haigh of the Harvard Kennedy School and partially funded by the Mossavar-Rahmani Center for Business and Government.

Interviewees

1. Duong Phan – Founder and CEO, Finizz Corporation
2. Beth Lopez – Co-founder and CEO, Docosan
3. Eric Nguyen – Co-founder, Ask Doctors
4. Alain Huynh Phuoc Tho (PhD)- Co-founder, eDoctor
5. Vu Thai Ha - Chief Project Officer, eDoctor
6. Theodore Kim – Entrepreneur
7. Phuong Nguyen – Director, VieVie Healthcare
8. Hoang Nguyen – CTO and Co-founder, BuyMed
9. Penny Sun – Former Project Coordinator for the Partnership for Health Advancement in Vietnam
10. Nguyen Quynh Anh – Senior Manager, Hoan My Medical Corporation
11. Miguel Rivera – Business Model Transformation Head, Novartis
12. Roeland Roelofs – Country President, Novartis
13. Dr. An Pham Le – Managing Director, Grant and Innovation Center at Ho Chi Minh City University of Medicine and Pharmacy
14. Dr. Tran Ngoc Dang – Vice Director, Grant and Innovation Center at Ho Chi Minh City University of Medicine and Pharmacy
15. Will Greene – Healthcare Engagement Manager (Asia Pacific), Roche
16. Chinh Bui – Founder and CEO, Learn in Context
17. Duc A. Pham – Founder and CEO, ViCare

Conversations

Informal conversations with the following people provided important context on healthcare, entrepreneurship, Vietnam, and/or healthcare entrepreneurship.

- Anika Heavener – Executive Director, Enterprise Data & Digital Health, Partners Healthcare

- David Duong – Director, the Harvard Medical School Program in Global Primary Care and Social Change
- Mohamed Aburawi – CEO, Speetar
- Valeria Budinich – Coauthor of “Scaling Up Business Solutions to Social Problems: A Practical Guide to Social and Corporate Entrepreneurs”
- Deborah Gordon – Author of “The Health Care Consumer's Manifesto: How to Get the Most for Your Money”

Exhibits

Exhibit 1: Public Healthcare Organization in Vietnam

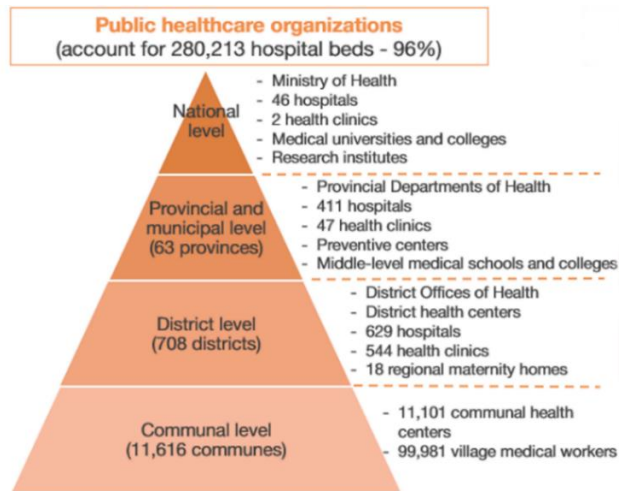
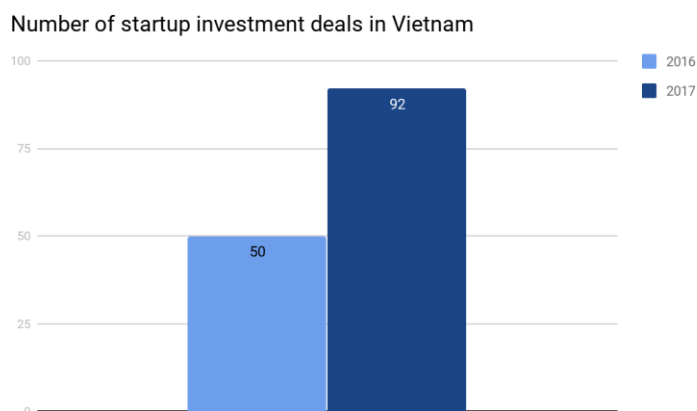


Figure shows the 4 levels within healthcare in Vietnam. The underutilization of community health centers, which drains resources at both the national and provincial level, is one of Vietnam’s biggest healthcare challenges. Source: Ministry of Health in Vietnam.

Exhibit 2: Increase in Startup Investment the Year Following Project 844



Data by Topica Founder Institute showing the increase in startup investment deals the year following Project 844

Exhibit 3: Startup Deal Value in 2017

Top Sector	Number of Deals	Value of Deals
E-commerce	21	\$83 million
Food tech	2	\$65 million
Fintech	8	\$57 million
Total	31	\$205 million

Data by Topica Founder Institute showing that 70% of total deal value in 2017 went to e-commerce, food tech, and fintech

Exhibit 4: Pictures



Source: LinkedIn - Ministry of Health signs MoU with Novartis in 2019 to strengthen Primary Healthcare. Utilizing digital health and technology is a core tenant of the Alliance's goals



Finizz is a doctor booking platform startup based in Ho Chi Minh City



Thuocsi is a B2B pharma distribution marketplace founded in 2017



Source: LinkedIn - Docosan is a doctor booking platform recently launched in Vietnam

ENDNOTES

¹ “A Look Forward: How Digitization is Transforming Vietnam’s Healthcare System,” *YCP Solidiance*, 2020, <https://ycpsolidiance.com/white-paper/a-look-forward-how-digitalization-is-transforming-vietnams-healthcare-system>

² Sean Fleming, “Viet Nam Shows How You Can Contain COVID-19 with Limited Resources,” *World Economic Forum*, 2020, <https://www.weforum.org/agenda/2020/03/vietnam-contain-covid-19-limited-resources/>

³ Trang Nguyen and Edmund Malesky, “Reopening Vietnam: How the Country’s Improving Governance Helped It Weather the COVID-19 Pandemic,” *Brookings (blog)*, May 2020, <https://www.brookings.edu/blog/order-from-chaos/2020/05/20/reopening-vietnam-how-the-countrys-improving-governance-helped-it-weather-the-covid-19-pandemic/>.

⁴ Tom Furtwangler and Elaine Ung, “How COVID-19 accelerated the shift from paper forms to digital data in Vietnam,” *Path.org Blog*, March 2020, <https://www.path.org/articles/covid-19-paper-to-digital-vietnam/>.

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