Asia Impact Investment Fund II L.P. Development Impact Report 2023

November 2023

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Forewords

2023 has been a consequential year both for the management of the Asia Impact Investment Funds I and II and the fund portfolios themselves. Having pioneered the creation of a bespoke impact investment product for ultra-high and high net-worth clients nearly ten years earlier, Credit Suisse's private banking arm spun out the impact advisory team into an independent entity, Double Delta. The Double Delta team has harnessed the institutional underpinnings and strong internal controls developed within Credit Suisse to create a family of funds uniquely providing risk capital to lower-middle market companies in South-East Asia and China. As a stand-alone entity, Double Delta is now an important actor in the region's impact landscape, much of which remains focused either on very small transactions and incubation/acceleration-stage interventions, or much larger deals.

Though the slowdown in the Chinese economy and reverberations across Asia and the world have made for a challenging investment climate in 2023, the Double Delta team has steadfastly concentrated on adding value to portfolio companies in numerous ways, from building partnerships and procuring relevant sectoral expertise to assist in sourcing complementary debt and other financing. Given that most investees are primarily orientated towards domestic demand and un-/underserved, or inefficient internal markets, Double Delta has been mobilising the team's relationships and decades of impact investment, development finance and SME development expertise to help them navigate the challenges and opportunities they face. It is my strong conviction that our determination to build up business models that facilitate inclusion and full economic participation for all continues to resonate with investors and portfolio companies alike.

With our UOBVM partners, we are working to maximise the value from the AIIF I as the pace of divestment accelerates, yet remaining mindful that we position investees to build on the impact-orientated theses we participated in crafting. AIIF II, meanwhile, continues to take risk-mitigated stakes in companies that are forging opportunities for the many and helping the less fortunate overcome perennial obstacles to inclusion. As we continue to grow our suite of funds in future, we honour the foresight and risks taken by the Credit Suisse (now UBS) private bank in launching the AIIF initiative, and redouble our commitment to the best possible stewardship of these critical vehicles.

Joost Bilkes
Managing Partner

Double Delta

I am delighted to introduce the 2023 Development Impact Report for the Asia Impact Investment Fund II L.P. As the analysis suggests, we remain cautiously optimistic about the outlook of the ASEAN-China region. The Chinese economy is beginning to show signs of recovery, with economic data in the third quarter of 2023 indicating broad-based upticks in consumption, industrial activity and employment creation. This should position China to achieve the annual average real GDP growth target of 5%. Meanwhile, the ASEAN economies are bouncing back from the pandemic at a faster pace than the global average. This said, the ongoing crisis in China's property sector, and the disappearance of 'easy money' is forcing start-ups and early-stage companies to focus on profitability, and is producing headwinds that continue to have an impact on the fundraising environment and stock market performance.

The fact that our investment portfolios are focused on sectors that benefit China's base of the pyramid population, and are strongly aligned with government policy, notably the Common Prosperity Goal, has helped to insulate performance, to a greater or lesser extent, from less favourable macroeconomic trends. In healthcare, for example, we have selected segments whose growth prospects are driven by sheer force of demographics, whether in the Chinese context, where the downturn has limited effect on burgeoning demand for geriatric care and nephrology services, or in Vietnam, where millions struggle for access to quality primary care and reliable medical supplies. Similarly, the vibrance of the small and medium-sized enterprise (SME) sector in urban and rural settings alike has continued to drive entrepreneurship and small-scale lending, whether for commerce or agriculture. Our steadfast focus on sponsor quality, alignment of interests with co-investors and deep engagement with investee companies is paying dividends in terms of their ability to weather the inevitable turbulence generated by geopolitical tensions within and beyond the region. We have remained attentive to the capital needs of the portfolio to ensure that it is as well-positioned as possible for continued steady growth. We also remain cognisant that the quality of each company—financial and managerial— will be key, as that will attract suitable purchasers or enable successful exits.

Seah Kian Wee
Chief Executive Officer

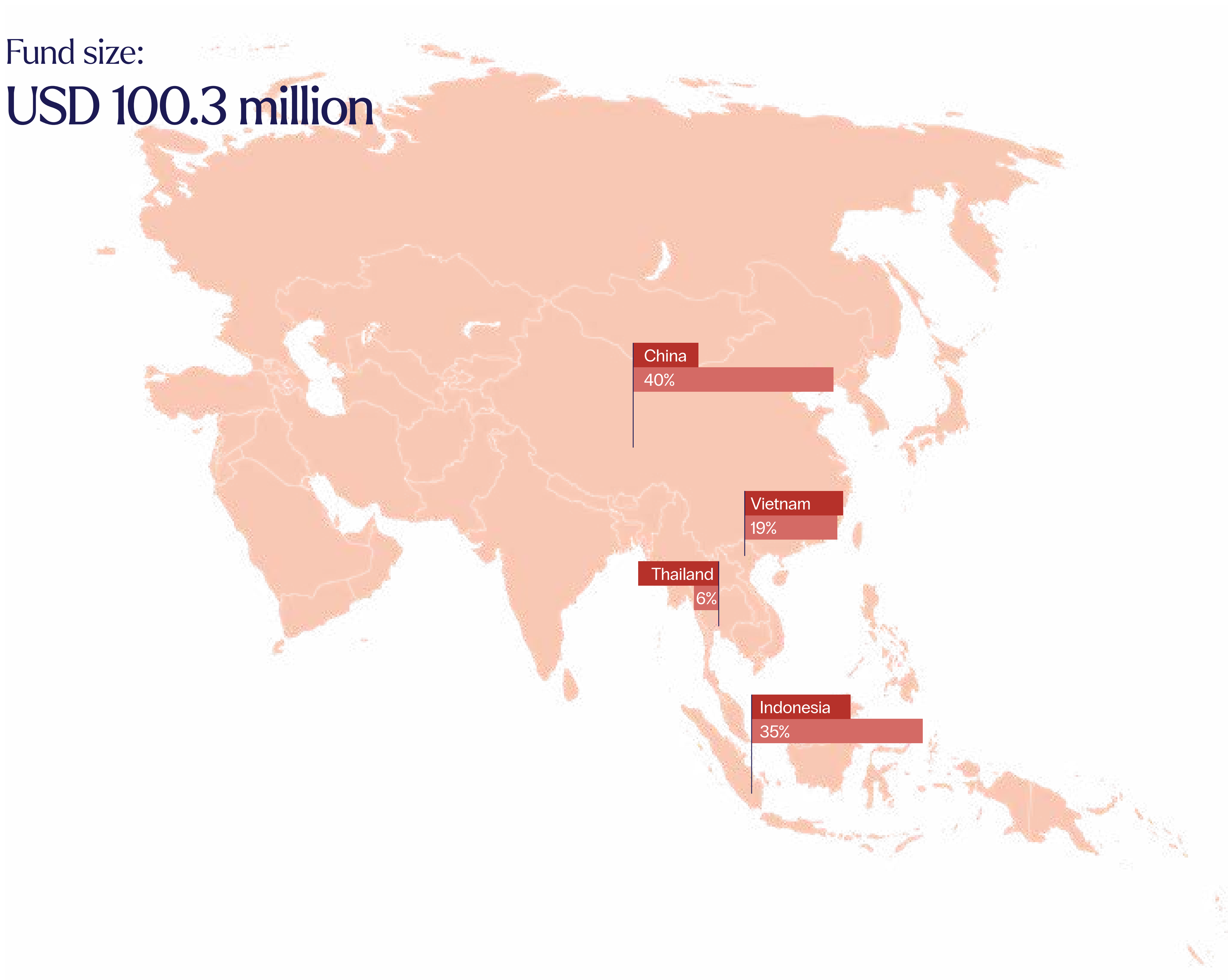
UOB Venture Management

Contents

[1] This information is solely for illustrative purposes only and it does not constitute an offer or invitation, nor does it contain any advice or recommendation, to buy or sell any security or to otherwise enter into any type of financial transaction.

Asia Impact Investment Fund II at a glance

Fund size:
USD 100.3 million



Investments to date by country and sector

China
40%

Healthcare
Everlife
Tianyu Infinity Wellness

Education
Tian Tian Xue Nong

Indonesia
35%

Agriculture
TaniHub

Logistics, distribution & infrastructure
Evermos

Vietnam
19%

Healthcare
Buymed (thuocsi)

Education
ELSA

Thailand
6%

Agriculture
Ricult

As at 31 October 2023

Percentages denote proportion of invested amount deployed per country.
Source: UOB Venture Management and Double Delta.

Introduction

Fund overview

In April 2022, the Asia Impact Investment Fund II L.P. (AIIF II, or the Fund) reached a final close with capital commitments of USD 100.3 million. It is managed by UOB Venture Management (UOBVM) and advised by Double Delta.[1] The Fund makes investments of USD 2–15 million (including follow on tranches) in fast-growing private businesses in China, Indonesia, Philippines, Thailand, Vietnam, Cambodia and Laos. Its geographical focus, along with the concentration on growth capital and inclusive business models, are unique in the region.

[1] UOBVM is a subsidiary of United Overseas Bank Limited (UOB), a commercial bank focused on Asia with headquarters in Singapore. Double Delta is the Impact Adviser to UOBVM for AIIF II.

Source: UOB Venture Management and Double Delta.

The imperative of inclusion

Impact investing means many things to many people. AIIF II has a very clear definition of impact investing. It is the deployment of capital in companies with the deliberate intention of generating positive social and/or environmental benefits alongside, and as a means of, achieving positive financial returns. The key point here is that the benefits are not by-products or “incidentals”. They are embedded in the strategy of the business.

Within impact investing, the Fund targets **inclusive businesses**. What does this mean? The model of an inclusive business enables poor people to do two things:

- to gain access to affordable goods andservices that are vital to meeting basicneeds and building secure, sustainablelivelihoods; and/or,
- to engage more effectively (or at all) in economic opportunities in enduring andbeneficial ways.

The key points here are:

- For AIIF II, the route to impact is commercial and therefore sustainable.
- The process of inclusion drives transformational change.
- The Fund sees financial opportunity in building companies that address lowerincome groups’ demand for goods and services. In many cases, these have long been unaffordable or inaccessible to the poor.

These goals find expression in investments that seek to remove (or at least reduce) the so-called poverty penalty. This is defined as the cost or, effectively, the tax that derives from being poor. It can take the form of first-order obstacles: lack of access, physical distance or danger, unreliability, cost, poor quality, limited choice, discrimination; and second-order obstacles, such as lack of internet access. Taking into account the poverty penalty is important because it captures the multi-dimensional aspects of deprivation.

AIIF II definition of poverty

AIIF II adopts the World Bank’s definition poverty, “profound deprivation in well-being”. It forces us to consider more than just familiar manifestations of poverty like malnutrition or starvation, urgent as they are, to include lack of empowerment, opportunity, security and so on.

Source: UOB Venture Management and Double Delta.

What does AIIF II mean by BoP?

AIIF II investments target people living at the base of the economic pyramid (BoP). The Fund defines the BoP as people living on US$3,000 per year or less. This encompasses those in abject or extreme poverty, those in basic poverty and the so-called “near poor”, who live precarious lives and are at risk of falling into or returning to poverty. Focusing on the BoP means strengthening livelihoods in the following areas:

Access: Facilitating access to basic goods and services that improve poor people’s standard of living;

Affordability: Lowering the cost of basic goods and services for poor people by supporting companies that can achieve economies of scale and increase their customer bases or reach;

Opportunity: Promoting opportunity, especially for employment, enabling the poor to generate wealth and to accumulate assets; and

Empowerment: Creating new employment opportunities for the poor which materially improve their standard of living, or improving existing employment opportunities in the same way.

Source: UOB Venture Management and Double Delta.

A disciplined approach to achieving impact

It is not enough simply to avow a focus on impact and, within that, on inclusive business. Even in just two short decades of impact investing, too many investors have been disappointed by strategies that promised much but drifted from their missions. AIIF II sought to avoid this danger by designing a robust Impact Policy. The Impact Policy stipulates the business models and sectors eligible for investment, highlighted on the next page. Any investments outside these parameters are raised with the Fund's Senior Advisors, a panel of independent experts.

Source: UOB Venture Management and Double Delta.

AIIF II: Business models and sectors eligible for investment

BoP business models	Comments
Consumer	Businesses that improve livelihoods by providing consumers with goods and services that alleviate challenges arising from one or several of the following: access, cost/affordability, quality, choice, availability.
Supplier/Producer	Businesses that source from the poor, have significant potential or need to do so and/or are seeking to increase the number of poor people in their supply chains.
Distributor	Businesses whose distribution strategies require the employment of significant numbers of BoP incumbents and, often, whose goods and services seek to improve livelihoods.

Sectors	Sub-sectors
Agriculture	Agro-processing, food production, primary production, infrastructure, agricultural inputs, aqua-culture, niche and high-value products.
Healthcare	Service providers (hospitals, clinics, diagnostic centres), distribution and retail, light manufacturing, pooled healthcare products, medical education, application of medical technology, nutritious foods and clean water.
Education	Primary, secondary, tertiary, adult and professional education, training centres, online education solutions, teacher-training, curriculum development.
Clean/renewable energy	Investments including waste-to-energy, biogas, solar, small-hydro, technical service providers to the clean energy sector.
Sanitation, water & waste management	Water distribution and management, waste-water management, secondary and tertiary irrigation, household waste-management.
Access to finance	Microfinance, microcredit, agricultural finance, other financial services including technology enabled solutions.
General manufacturing	Basic consumer goods required by low income households, with a focus on affordability (size and price).
Affordable housing	Including construction and provision, and leasing of construction equipment to home builders.
Logistics, distribution & infrastructure	Transportation and communications infrastructure, technology enabled distribution models, logistics.

Source: UOB Venture Management and Double Delta.

Since investment by AIIF,

Over 1,530,000 low-income individuals have been reached[1]

Sector Highlights

Agriculture

257,000

Farmers have gained access to finance, inputs and technology, and/or introduced higher-value crops, resulting in higher production yields, and higher incomes.

Relevant AIIF Companies
Ricult | Tian Tian Xue Nong | Tanihub

Healthcare

1,120,000

Low-income individuals have gained access to better-quality, affordable healthcare goods and services.

Relevant AIIF Companies
Buymed | Everlife

Distribution & Logistics

161,500

Low-income individuals have gained access to a social commerce platform that enable them to earn a livelihood and increase their incomes.

Relevant AIIF Companies
Evermos

Education

174,500

Youths from low-income households now have access to quality educational content, improving individual and national-level learning outcomes.

Relevant AIIF Companies
Tian Tian Xue Nong

Contributions to Sustainable Development Goals (SDGs)

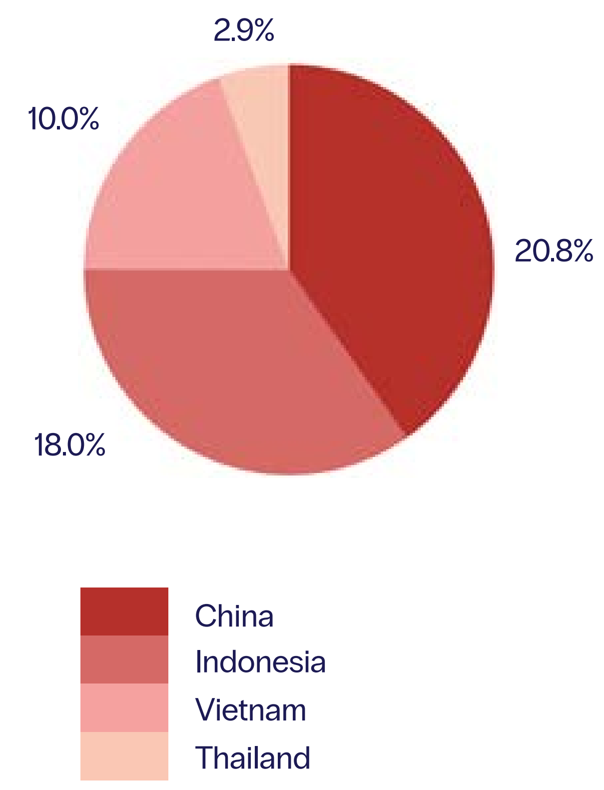
[1] As at end September 2023 except for Buymed, which data is as of June 2023. This figure is the increase between either the investment date or date of base line, and the quarter ending September 2023 except Buymed, which data is as of June 2023.
Sector-specific figures are calculated on the same basis.
Data for the newer investments ELSA and Tianyu which were made only in July 2023 are not included

Source: UOB Venture Management and Double Delta.

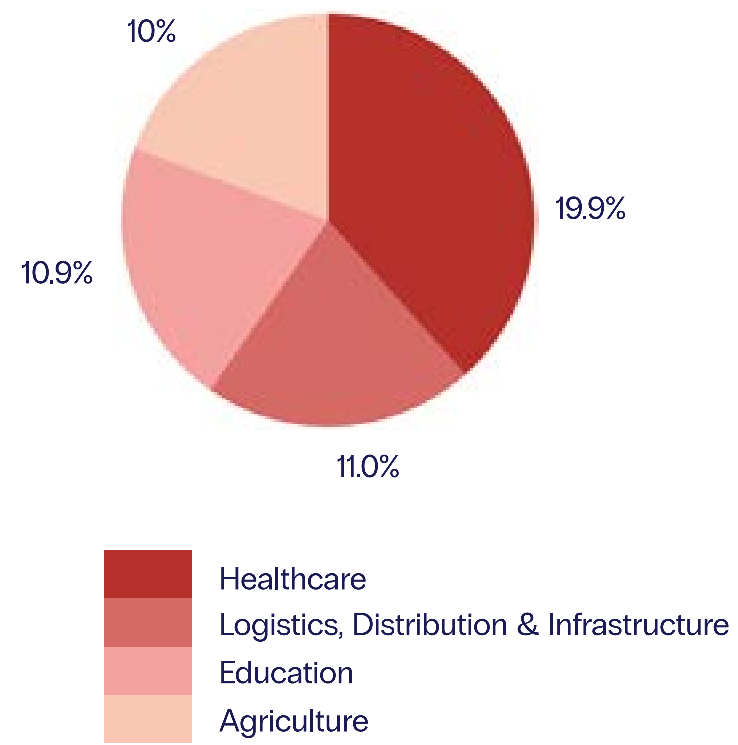
Portfolio Breakdown[1]

Based on invested amount

	No. of deals	Invested/committed amount (USD millions)	As % of fund size
China	3	20.9	20.8%
Indonesia	2	18.1	18.0%
Vietnam	2	10.0	10.0%
Thailand	1	2.9	2.9%
Total	**8**	**51.9**	**51.7%**



	No. of deals	Invested/committed amount (USD millions)	As % of fund size
Healthcare	3	19.9	19.9%
Logistics, Distribution & Infrastructure	1	11.0	11.0%
Education	2	11.0	10.9%
Agriculture	2	10.0	10.0%
Total	**8**	**51.9**	**51.7%**



[1] As of 31 October 2023

Source: UOB Venture Management and Double Delta, as at October 2023.
Asset allocation may change from time to time without notice.

Vietnam's Pharmaceutical Sector: An Essential Dimension of Universal Healthcare Coverage

Country Context

In 2022, the World Bank described Vietnam as a "forerunner in the region" of South-East Asia in terms of progress made towards achieving Universal Healthcare Coverage (UHC). To a large extent, this reflects Vietnam's steadfast focus on the Millennium Development Goals (MDGs) articulated by the World Bank and broader community of development institutions in the late 1990s: In Vietnam, infant and maternal mortality rates fell markedly, there was an 80% increase in treatment of tuberculosis and HIV/AIDS, and immunization cover of children under the age of one year exceeded 90% for the first time.

With UHC defined as every citizen, irrespective of financial or social circumstances, being able to access affordable prevention, treatment, rehabilitation and palliative healthcare services, the Vietnamese government has made great strides in this direction, with the population covered (to some extent) under UHC rising from 52.4 million in 2012 to 91.1 million in 2022. Although Vietnam's population is relatively young, the combination of aging, demographics and urbanization, among other factors, all present challenges as the country anticipates a rise in non-communicable diseases (NCDs) and serious conditions such as cancer, diabetes, hypertension, cardiovascular and pulmonary illnesses (particularly Ho Chi Minh City and Hanoi which face pollution challenges). As such, like many South-East Asian peers, demand for healthcare services is expected to rise steadily for the foreseeable future. From a government policy perspective, this militates for analysis and revisiting of all corners of the healthcare industry, public and private, in order to reduce bottlenecks and increase efficiencies.

With AIIF II having now made its first investment in Vietnam's healthcare sector—specifically touching distribution, logistics and administration aspects of pharmaceuticals, among others—the 2023 Development Impact Report explores the critical role to be played by a reconfigured, more efficient and transparent pharmaceuticals sector to play in achieving UHC and, most fundamentally of course, improving patient outcomes. Cost savings, reduced leakages, higher productivity, deliverability, accuracy and trust in the provenance of pharmaceuticals, among myriad other factors, are vital in order to control the fiscal burden of UHC to the greatest extent possible. As the case of Vietnam demonstrates, with touchpoints, parallels and instructive lessons for most South-East Asian counterparts, the pharmaceuticals sector is a vital node in the healthcare nexus and has a key role in achieving more equitable healthcare outcomes nationwide.

The Vietnamese Healthcare Landscape

Though the global pandemic of 2020-2023 demonstrated that the threat of communicable diseases is perennial, it is the steady rise in non-communicable diseases since the early 1990s that is preoccupying the Vietnamese Ministry of Health (MOH). According to MOH data, NCDs account for an increasing share of the disease burden, with some 12.5 million people suffering from hypertension and 3 million from diabetes, to provide just two examples. Alarmingly, MOH analysis estimates that just over 40% of people are in fact aware that they are suffering from these illnesses. In the face of these data and trends, there is acknowledgement in government that the public sector has neither the resources nor the dexterity to tackle the challenge on its own. As such, the MOH has been actively encouraging fee-based, private-sector led and other hybrid models, for example in partnership with the social enterprise and non-profit communities, to craft innovative community healthcare options, and to forge new treatment and care channels. In supporting new approaches and recognizing its own limitations lies a noteworthy realization by government: that rises in government expenditure does not necessarily confer improved healthcare delivery nor improved patient outcomes. Rather, an ecosystem approach is needed with the full community of actors participating in building robust production, services and infrastructure capacity. Vietnam's pharmaceutical sector is a case in point.

Pharmaceuticals—A Vital Piece of the Healthcare Puzzle

Broadly speaking the Vietnamese pharmaceuticals sector is very lopsided with weak domestic production but for some generic medications, little export activity, poor regulatory and intellectual property (IP) standards and enforcement, counterfeit drugs (though dropping), and little foreign direct investment (FDI) due to government restrictions. At the same time, it is a vast and growing market, estimated at some USD 7.7 billion in 2021 and a compound annual growth rate (CAGR) of 7.0%, more than twice the country's GDP in the decade to that year. Though pharmaceutical spending per capita is low relative to most South-East Asian peers—USD 70, compared to USD 184 in Singapore, USD 85 in Malaysia and USD 84 and USD 42 in Thailand and Philippines respectively—some projections indicate that the Vietnamese market could more than double in size to USD 16.1 billion in 2026. Much of this prospective growth is attributed to greater personal awareness of health and wellness in the wake of the pandemic, the growing demand for elder care, and the rise in NCDs.

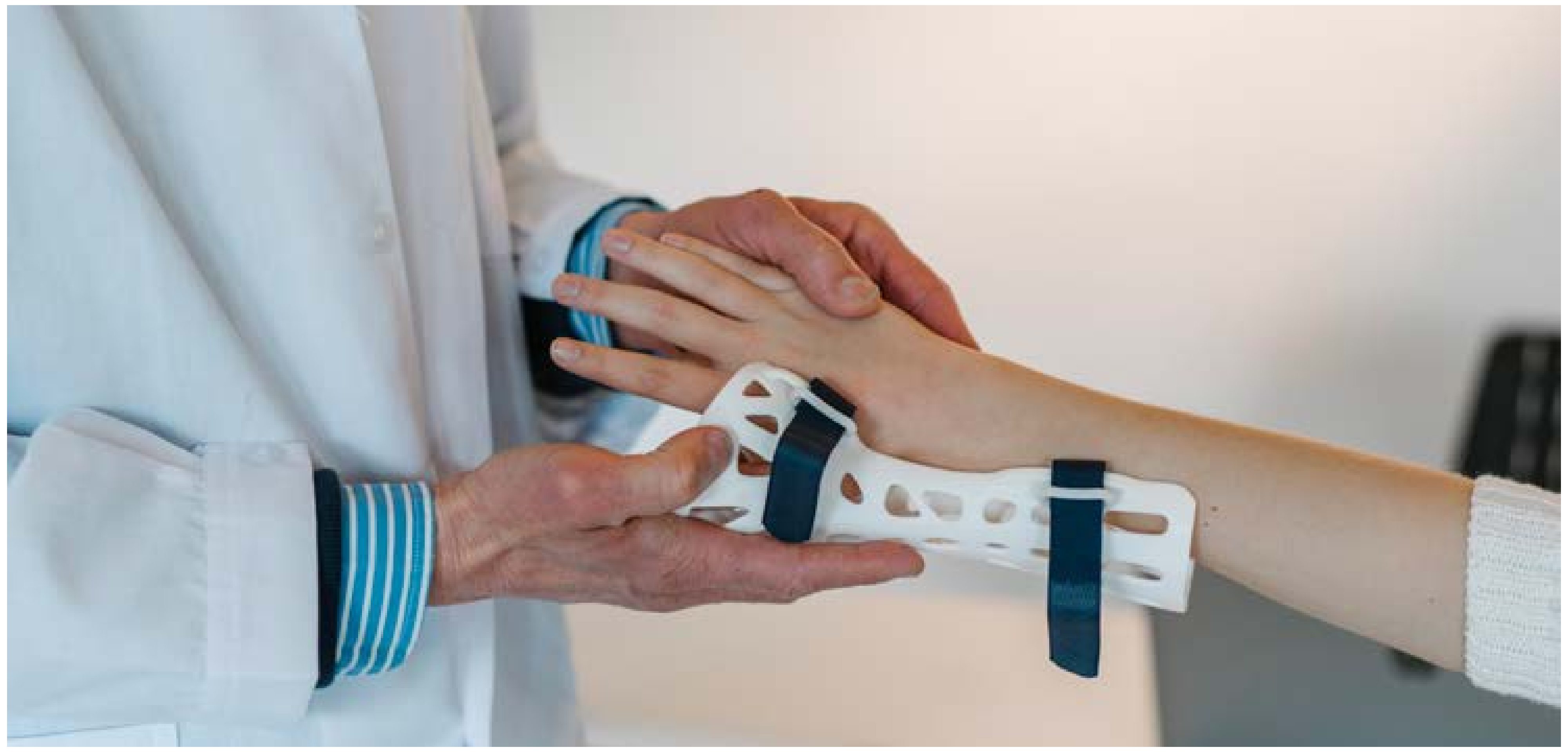
The spike in spending on wellness products—vitamins, nutritional supplements, minerals, balms and essential oils, among other products—is an instructive indication of the direction of spending, especially if average incomes continue to climb as they did in 2012-2020, when they doubled.

The first-order problem dogging pharmaceuticals is fragmentation. It affects most every aspect of the industry, and creates the conditions for unnecessarily high prices for end-consumers. The issue begins on the production side, where capacity is extremely low and half of all medications, especially branded drugs, are imported. Distribution is the next challenge. Once imported or manufactured domestically, most medications are deposited and concentrated into vast, physical wholesale markets in Ho Chi Minh City (south) and Hanoi (north), and to a lesser extent Da Nang (central). A web of middlemen working from myriad small shop units, often little larger than the 'mom-and-pop shops' found throughout Vietnam's cities and towns, then fulfil orders that are physically collected for distribution by sales agents—effectively, another layer of middlemen—on foot or motorbike. The implications for quality control, storage, chain of custody, preservation of medication integrity, spoilage, graft and error speak for themselves, undermining trust in the supply chain. With sourcing shrouded in layers and opaqueness, by the time medications reach pharmacies and end users it is extremely difficult to determine their point of origin.

The second-order issue is the role of the sales representative. The sales representative is the nodal point between the distributor and the retailer. The vastness of this network is put in relief when it is recalled that there are approximately 10,000 clinics and 57,000 pharmacies in Vietnam, of which 98.5% are small and independently-run. The cost layer accounted for by sales representatives' fees, not insignificant to say the least, is preserved and justified, it might be said, because of the proliferation of retailers nationwide, coverage of all of which manufacturers and distributors require. In other words, the sales representatives are feeding off the space between vast upstream concentration at the outset of the medicine delivery journey, to the need for extensive capillarity in peri-urban and rural settings.

The structure of the distribution side has further implications for cost and logistics. There are roughly 1,500 distributors in Vietnam, however the range of medications carried by each is limited. (The structure of distribution in the United States offers an enlightening contrast, where 3 major distributors account for 90% of supply). What this means is that both distributors and pharmacies in Vietnam must maintain multiple distributor/supplier relationships—five or more are common—to maintain a sufficient range of items (limited though it may nevertheless be).

Inevitably, the structural burden falls hardest on smaller pharmacies and those in rural areas. The economics of covering them deters many distributors, shipping costs are high, and minimum order sizes tend to be smaller or very small for less frequently-ordered medications needed by one person. With the structure further up the supply chain such as it is, options for aggregation are severely restricted. The public sector, meanwhile, encounters a host of specific issues. While public-health delivery theoretically benefits from a neatly-stacked order of provincial, regional, district and commune-level healthcare centres (CHCs), it is CHCs that suffer most from the shortcomings in the supply chain. At the extreme end of the budgetary 'food chain', CHCs feel most keenly the disparity between drug prices and national social health insurance (SHI) coverage. The annual medication projection and bidding process, labyrinthine, bureaucratic and slow, only complicates the picture, further imperiling patient outcomes. Projections are based on consumption data from the previous year, however, these have inevitably been skewed by the gap between actual patient needs during the year and the preceding year's projections, perpetuating the short-circuits. As NCDs and multiple conditions increasingly require multi-drug regimens, the system is proving even less equipped to handle patient needs.



A confluence of factors is spurring structural shifts in the sector. The magnitude of the production opportunity being forgone to imports is not lost on manufacturers and large pharmaceuticals players. New factories to boost domestic production capacity, increase supply and ultimately, lower prices, are under construction. Pharmacy franchises and chains are emerging that must meet MOH good pharmacy practices (GPP), with a strong emphasis on quality assurance. Healthcare technology start-ups are also building connective tissue and attracting venture-capital funding to tackle the opportunities for business models that can disrupt and reconfigure. At the same time, digitization has vast implications for the sector and will be inevitable if the transparency that achieving UHC demands is to be achieved.

Conclusion

The International Journal of Environmental Research and Public Health cites three issues that must be addressed fully to meet Vietnam's healthcare needs: (i) access, including distance to medical facilities, transportation and financial impediments (affordability and ability to pay); (ii) awareness and knowledge of healthcare; and, (iii) unavailability of medical some services, delays and inefficiencies. Nearly 50% of those consulted by the Journal in rural areas indicated that the availability of doctors and medicines were persistent challenges, along with the high level of out-of-pocket payments. Nearly half of participants in the research were unable to get prescriptions from healthcare providers, with obvious implications for following treatment regimens.

Investment updates

Buymed

Buymed: the investment at a glance	
Country / region	Vietnam, Cambodia and Thailand
Initial investment date	February 2023
Business model	Digital platform and offline pharmacy partnerships addressing issues of availability of medication and price transparency.
Investment	USD 6.0 million
Structure	Preferred shares

Investment snapshot

Buymed Pte.Ltd. (Buymed) was established in 2018 by three co-founders with decades of collective experience in healthcare, the pharmaceuticals industry and pharmaceutical distribution. Buymed operates as a B2B e-commerce platform and is extending to B2B2C services. In essence, through its website and applications, it connects pharmacies, clinics, hospitals and patients to drug suppliers and manufacturers by enabling sourcing and procurement of medication online. In addition to its market place and direct sales models, it has rapidly-expanding e-pharmacy distribution capabilities, and now boasts relationships with more than 700 certified suppliers and 18,000 active customers in every province of Vietnam. In 2021, the company expanded into Cambodia and is expanding into the Thai market.

As outlined above, the curious functioning of the wholesale market in Vietnam drives many issues in the sector. As such, it is the focal point of Buymed's upstream interventions. If independent pharmacies, mom-and-pop shops, family drugstores and clinics are able to procure medications online with transparent sourcing and pricing, then a nationwide marketplace ecosystem can be created with opportunities to improve efficiency, safety and cut costs and prices. To do so, a mix of online and offline infrastructure is necessary. The company has three fulfilment centres, one sorting centre and more than 85 logistics hubs. Some 30,000 monthly orders are processed, with an extensive suite of product stock keeping units (SKUs) comprising more than 60% medication and supplements, and the remainder medical equipment, cosmetics and other care products. Buymed has also launched a business collaboration model named Circa, to revamp physical pharmacies putting them under the proprietary Circa brand. Circa Phamacies can handle store sales fulfillment, including fulfillment of online sales orders, with inclusion of prescription portal and over the counter order management capabilities.

Buymed is now in a commanding position in Vietnam, leading in customer coverage (largely independent pharmacies), product range and fulfilment capability. Its comparative advantage has been built in two main ways. First, it has built an end-to-end software and logistics network whose reach, product variety and fulfilment capability vastly outstrips competitors. Second, because of the critical mass of suppliers on its platform, it can render pricing transparent and competitive. Price comparisons among suppliers are a key step forward in this regard, offering unprecedented visibility on what has long been a black box.

From Idea to Business Model—Charting the Evolution of Buymed

As the three founders of Buymed contemplated an initial point of entry en route to a disruptive business model, one fundamental precept was clear. In the

words of one founder, "we knew that untangling the wholesale market in some way was key. The wholesale market drives everything in Vietnam—manufacturing, distribution, logistics… everything." Whereas such fundamental changes to long-entrenched practices would normally meet fierce resistance, as it happened, rumours that there was to be some physical disruption to the country's largest wholesale market in Ho Chi Minh City was likely at least not to direct resentment towards a new entrant seen as an existential threat. The market is located on land owned by the Vietnamese military, and there was already chatter that the facility was to be closed. The question, of course, has been what would replace it?

In answering this problem statement, Buymed first grappled with the role of the freelance agent. As mentioned above, agents have long been used by doctors and pharmacists to access medication. Connected by social media, predominantly Facebook, agents manually fulfil orders—quite literally taking orders by hand and photographing (some) paperwork—and earn by taking a cut on orders. With no training in pharmaceuticals or pharmacology, and not aligned with any other supply-chain actors (above all end-users), the integrity and quality of medication is of no consequence to them. Thus it was clear to Buymed that facilitating direct commercial relationships between the demand side and the manufacturing/distribution side had to be part of any solution.

Thus, Buymed set about aggregating orders from suppliers with three priorities of pharmacies and clinics firmly in mind: lack of transparency, price variability and speed. The founders were also aware that rural and peri-urban pharmacies and especially those in provincial towns struggled most with unreliability of suppliers and price fluctuations, unserved directly as they mostly are by manufacturers and distributors. After assuming control of a pharmacy in the Central Highlands that was sourcing for 70 pharmacies in the region, it was not long after order fulfilments were in place that operations went online. As marketing and social media, principally Facebook, swelled its pharmacy cohort to 1,000 in short order, it was clear that a significant pain point was being resolved on the demand side. Astutely, however, the company realized that an online solution, no matter how alluring, was only as good as the logistics underpinning it. Delivery and logistics partnerships would be needed nationwide in order to address the last-mile delivery issue.

An essential point to note in Buymed's evolution is the opportunity that aggregation offers to solve another entrenched issue in Vietnam's pharmaceuticals market. The further along the supply chain, specifically the trajectory of medications themselves, the harder it becomes to fulfil non-standard drugs because in a fragmented distribution context, any critical mass is diluted, with end-purchasers (pharmacies) and end-users paying the price—literally, in terms of availability and cost.

The Arrival of COVID-19—An Unanticipated Inflection Point

Throughout most of 2020, when almost every South-East Asian country was in the grips of intermittent waves of COVID-19 and cycling in and out of lockdowns and severe disruption to supply chains, Vietnam, having sealed its borders early in the pandemic, remained almost unscathed. There was a question mark whether the country might escape the virus altogether. 2021 saw the arrival and rapid penetration of COVID-19 in a population that remained largely uninoculated. Lockdowns and movement restrictions were severe even by South-East Asian standards, and it soon became clear that Buymed, thanks to its online infrastructure, was effectively the only platform in the country that could continue delivering medication. Disjunctions were so complete in so many parts of traditional offline distribution that doctors, pharmacies and clinics flocked to Buymed. As one of the founders put it, "we were quite literally the only game in town because so much of the supply chain had shut down. It gave us prominence that we never could have anticipated and no marketing strategy, no matter how brilliant, could have achieved." Hence, by the time vaccine rates had risen and the virulence of the virus had begun to subside, Buymed was very much a known quantity and its position in the healthcare ecosystem was firmly established. This was reinforced in the post-pandemic period by the huge spike in demand for health and wellness products as people were both fearful of the expected subsequent wave or waves of COVID-19 and vulnerabilities borne of co-morbidities. General unease was heightened by nationwide shortages and stockouts of key medicines, which brought into stark relief the enormous shortfall in domestic manufacturing capacity.

Buymed in the Post-Pandemic Era

To be sure, as the fear and uncertainty wrought by a novel global health crisis began to ease in late-spring 2022 in Vietnam, pandemic-driven demand and stocking up in the retail and personal sectors correspondingly dissipated. Yet Buymed, already fulfilling 25% of pharmacies' orders nationwide, had managed to entrench its 'share of wallet' in thousands of customers and position itself strategically for further growth. The company is now looking to expand the number of pharmacies it works with to more than 40,000 nationwide. To do so, a core challenge will be rural penetration. Not only do sophistication and training levels drop off in rural Vietnam, especially in remote areas, but supplier relationships, understandably, are not easily disrupted, let alone severed. Most are long-standing and options for replacing suppliers are limited, so building trust and introducing unfamiliar purchase and supply modalities will take time.

Meanwhile, Buymed remains vigilant about competition and some copycat models have emerged, but with monthly gross merchandise value (GMV) exceeding USD 10 million, it is in a favourable position because as the largest aggregator in the country, it can command the most competitive prices for most SKUs.

First however, there is much work to be done to modernize retail pharmacies, in everything from layout, presentation and marketing, quality control, storage and hygiene through to digitization, inventory management and education/training. The Circa model is the key driver in this regard with a view, in the longer term, to establishing community pharmacies as centres of physical, mental and social health. The drive to UHC will inevitably draw pharmacies into the treatment delivery mix for the grassroots access they can offer in addressing some relatively uncomplicated, often routine healthcare needs, such as taking of vitals, monitoring of hypertension and diabetes indicators, routine management (wound-dressing, for example) and so on. Given that doctors and certainly specialists will inevitably be concentrated in larger towns and cities, doctor-pharmacy collaboration will also likely be part of the UHC mix and offer opportunities for Buymed.

The Development Impact of Buymed: Towards a Lasting Structural Reconfiguration

According to United Nations analysis, one-fifth of people suffering from chronic illnesses in Vietnam are likely to die. In many cases, especially in rural areas, such outcomes are attributable to the low ratio of doctors to population—(just 8.3 for every 10,000 people)—along with the poor quality of medical facilities. However, the availability and reliability of essential medications also bears responsibility. As we have seen, both in the public sector and pharmacy contexts, there is often a disjunction between medications ordered/available, those covered by SIH, and those actually needed. We have also noted that pharmacies, which account for nearly three-quarters of pharmaceuticals sales in the country, cannot offer comprehensive medication availability for customers because of the inability/unwillingness of many manufacturers and distributors to reach certain areas, and frequently, the failure to meet minimum order amounts per SKU to justify fulfilment. In the aggregate, this leaves patients with full-service hospitals, the best of which are located in large cities and some main provincial cities, as the only place where most medications can be found.

The impact that Buymed is having on the status quo, and can have in future, is profound, especially as it relates to rural areas. The current locus of its interventional impact is the pharmacy, and it is edifying that the percentage of GMV accounted for by rural rather than urban pharmacies has jumped from 40% in 2019 to 65% in 2023. Simply by plugging into the Buymed ecosystem, pharmacies gain access to an extensive range of SKUs. Just as significant and a key differentiator of the Buymed value proposition is the absence of a minimum order-size. Made possible by aggregation, this immediately removes from the pharmacy—and ultimately the patient—the economic burden of accessing and paying for less-frequently needed, rare or one-off, timebound medication protocols. It also alleviates the burden on pharmacies of carrying inventory which, if ordered even in the minimum quantities required, may remain unsold indefinitely and eventually expire. Even peri urban pharmacies are only taking USD 25-40 on good days, so there is no room for unmovable product.

Buymed avoids minimum order requirements by working on a minimum 'cart order' basis, meaning that the total minimum value of an order, whatever its composition, must be VND 2 million (USD 81), including delivery costs. Where the cart order approach is novel is in regard to prescription medications, known locally as 'ethical drugs', or ETCs. Whereas before working with Buymed many pharmacies would either refuse or be unable to source prescription medications, now, the access and cost issues are resolved and the cost is effectively spread across the overall cart value. Economies of scale also help confer affordability, because Buymed's size enables it to offer prices that, according to numerous pharmacies interviewed, are 5-20% lower than the competition. Over time, a virtuous circle is engendered whereby aggregation, cost savings and more efficient inventory management/turnover both improve access, availability and quality of medications procured (thereby positively affecting patient outcomes), and strengthen pharmacies' position in the supply chain, enabling them further to widen their offerings. At a broader, systemic level, though too early to quantify and likely challenging to assess, there will be some alleviation of pressure on hospitals in large cities and provincial towns at least as it relates to stocking and sale of medications.
In time, the prospects for still deeper structural change and profound impact are very bright. What the Circa model is effectively doing is to position the pharmacy as the nodal point in the community for a range of primary care services that can be offered in future. It is not an overstatement to suggest that this must occur in due course because the shifting demographics and, despite consistent urbanization rates, vastness and dispersity of the rural population in Vietnam will need private-sector partners in pursuit and delivery of UHC. From a policy perspective, it may be that, in time, the breadth of pharmacist qualifications needs to be revisited, but the benefits of maximizing their potential as grassroots care providers/facilitators seem self-evident. As the role of the pharmacy inevitably expands, Buymed is strategically positioned to leverage the reconfiguration of the pharmaceuticals sector that its innovative model is helping to engender to address other inefficiencies in medical consumables and additional aspects of healthcare in Vietnam, all of which will only contribute to improved health outcomes over time.

Pharmacist Spotlight: Ms Dang, Cam Thu Pharmacy, Cai Be District, Tien Giang Province, Southern Vietnam

Ms. Dang, an established Thuocsi user since 2019, currently procures approximately 65% of her inventory through the platform. She cites that, since using the platform, she has expanded her product range by 30-40%.

Her experiences procuring very specific medications less-frequently used are instructive. She tells of a patient who required a specific cancer medication that was neither available in her store nor on thuocsi.vn. After submitting a request, she was able to source the medication on the platform the following day, and it was delivered within one week.

The Power of the Business Collaboration Model: Buymed's Experience with Circa to Date

Circa Store, Duc Tam, Ba Ria district, Vung Tau Province, Southern Vietnam
Located in Ba Ria district, Vung Tau province , some 100 km from Ho Chi Minh City, Circa Store Duc Tam, run by a husband and wife team – Mr. and Mrs. Hung, became a Circa franchise in July 2023. It had already been using thoucsi.vn, Buymed's online medicine portal, for some time because it had been struggling to fulfil patient orders. Since joining, the pharmacy is well on its way to digitization, and orders are now labeled with QR codes. When asked what prompted the shift to thuocsi.vn, both pharmacists cited that the wholesalers and distributors they used previously were unwilling/unable to provide proper documentation, and their pricing was untransparent. They were concerned that, as the MOH cracks down further on counterfeit medications, they could inadvertently fall foul of the authorities.

Since joining, monthly sales have risen considerably, jumping from VND 5 million to VND 7 million in October alone. Customers are pleased that most SKUs are available on the day, or in some cases, within 2-3 days maximum.

In response to the question why customers continue to frequent their pharmacy—there are likely 4-5 others in a 3 km radius, a typical number for a busy through-route in a small town—they cite the importance of relationships, deep linkages into the community and above all, trust. Reliable access to and quality of medication is clearly a key component, and it can be seen how, in time, if primary care services begin to be offered beyond the advice currently given based simply on their collective experience, the pharmacy will be well positioned to develop such offerings.

Circa Store Huynh Ly, Cần Giuộc district, Long An Province
Circa Store Huynh Ly, located in Cần Giuộc, a rural district in Long An province has been in operation since 2013, and began to use thuocsi.vn for medication supplies in 2019. It currently accounts for roughly one-third of the pharmacist's wallet share. Ms Huynh, the pharmacist is looking to upgrade from 'drug store'—a lower status with less stringent training requirements (a two year diploma) and able to offer fewer, only OTC products—to pharmacy, which will enable her significantly to increase the number of SKUs on offer. Beyond the frequent observation from Circa franchisees and thuocsi.vn users more widely, that the opaqueness and lack of legitimate documentation from wholesalers/suppliers causes concern, she notes that joining Circa was also a defensive move. Located near a roundabout, there are rumours that a larger chain store may open, which could undercut her considerably, notwithstanding deep linkages into the community. The marketing muscle of Circa is reassuring in this regard, because she has neither the training nor bandwidth to mount marketing campaigns herself.

Buymed metrics	At investment[1]	As at 30 June 2023
Number of active pharmacies in rural areas[2]	12,308	15,647
Number of BoP patients in Vietnam reached through Buymed[3]	4,098,564	5,210,451

Contributions to Sustainable Development Goals (SDGs)

[1] As at October 2022
[2] Pharmacies that make at least 1 transaction a month on the Buymed platform
[3] Based on information from the Vietnam Statistics Office, 2019, 60% of rural population considered BoP

Tian Tian Xue Nong

Tian Tian Xue Nong: the investment at a glance	
Country / region	China
Initial investment date	November 2022
Business model	Agriculture online vocational platform providing access to quality, relevant and affordable technical training for farmers
Investment	USD 7.0 million
Structure	Convertible note

Investment snapshot

In November 2022, AIIF II invested USD 7.0 million in Tian Tian Xue Nong (TTXN), which provides agricultural training, predominantly online courses in farming skills, targeting farmers, as well as provincial and local governments, agricultural enterprises, cooperatives, universities and vocational schools in China. The market gap addressed by TTXN is a learning platform providing affordable technical expertise and know-how for small-holder farmers. The structure of Chinese farming demonstrates why TTXN's contribution to the agriculture ecosystem can be so meaningful. According to official data, in 2017 some 314 million people were employed in China's agriculture sector, of whom 97% were working 50 mu (3 hectares) of land or fewer. Yields and productivity remain woefully low in many parts of the country, and damaging practices are ubiquitous, including over-fertilizing, excessive use of pesticides, herbicides and insecticides, insufficient soil preparation practices, sub-optimal crop rotation and under/over-watering, to name a few.

There are few resources available to farmers to learn new techniques, strategies for accessing inputs and markets, and broadening their crop offerings. With over 5 million registered users as at mid-2023, offering over 5,000 courses covering 85 commercial crops and livestock, TTXN is now the largest platform for general and vocational online agricultural training in the country.

The company has three business segments, business-to-government (B2G), business-to-business (B2B) and business to consumer (B2C; i.e. farmer as consumer in this case), with B2C being the predominant channel to date. The B2C offering includes a range of courses of varying depth, length and cost. Such offerings include affordable short-courses—a 10–30-minute session on mandarin-orange pruning priced at RMB 10 (USD 1.37), for example—to comprehensive advanced or certificate courses, which can provide up to 33 hours of instruction at a cost of up to RMB 3,000 (USD 411). The latter confer specialised agronomist certifications.

Obstacles to farmer upskilling in China

Traditionally, farmers in China have had little access to technical expertise. They glean information that may or may not be accurate through consultations with input suppliers or by participating in occasional offline training sessions organized by provincial and local authorities. Exchanging information and experience with fellow farmers is, of course, another informal channel. In sum, the sophistication of farmer :

1. Lack of consistent, good-quality training opportunities
Current offline training sessions occur infrequently, typically once or twice a year. Provided by experts from agricultural colleges or vocational training centres, course content tends to be more theoretical than practical.

2. Limited content relevance
Trainers organised by local governments tend to focus on 1-2 crops that are most widely grown in a given area, omitting many others that may be under cultivation and about which farmers would benefit from additional expertise.

3. Misaligned interest with input suppliers
To the extent that input suppliers provide information and training, such as it is, to farmers, they are of course incentivised by sales performance. This naturally affects the relevance and applicability of their interventions.

4. Geographical limitations
Specialists in one or a few crops tend to be concentrated in particular cities or regions, leaving a vast swath of farmers unable to access their expertise.

Farmers cite the accessibility of the TTXN app as particularly helpful. They can go over training content at their leisure and research additional issues after time on-farm. The relevance and digestibility are also important for customer acquisition and retention. In the words of the CEO and co-founder, Mr Zhao, TTXN is designed to be, "simple to grasp, effortless to acquire, and immediately useful for farmers". The vision shapes curriculum development and content creation at TTXN, which is handled by a team of 20. The team collaborates with seasoned practitioners, many of whom are active in farming, to ensure that the knowledge imparted is practical and actionable.

Affordability is key to customer acquisition and BoP-targeting

TTXN's short courses are central to its customer-acquisition strategy. They are targeted towards some of the poorest farmers in the country living at the base of the pyramid (BoP), hence affordability is essential. This is borne out in the data: some 68% of TTXN users are smallholder farmers with less than 50 mu (3.3 hectares) under cultivation. Starting at just RMB 10, the short courses serve as effective teasers to build awareness of what TTXN has to offer, and there is evidence that they act as a 'gateway' to more advanced, longer and costlier courses.

Expanding horizons: TTXN's 2023 curriculum evolution

During this year, TTXN has worked to widen its course offering, with the platform now carrying content on livestock farming and offering certification programs in landscaping and horticulture. All three have gained good traction, and the livestock course is particularly relevant for farmers in northern and western regions of China, which are more livestock-intensive than crop-focused. Courses on food safety and village-level agriculture planning have also been piloted, though uptake remains limited.

On the B2G side, the company is in discussions with local governments in Shaanxi, Heilongjiang, Sichuan and Hunan Provinces to replicate a demonstration training project in Guangdong Province. However, while interest from local provincial governments remain,

Farmer Lu, Shangqiu City, Henan province,

Forty-year old farmer Lu, tending a 10 mu (0.7 hectare) grapevine plot, has four years of experience. Prior to using TTXN, he attended several training sessions organized by input suppliers and local government. He recounts that the sessions predominantly morphed into product-promotion opportunities. The content was largely inapplicable and unmemorable.

Since using TTXN, Farmer Lu has invested in three micro-courses specifically focused on grape-growing. He began with an RMB 9.99 (USD 1.48) course on pruning, followed by an RMB 19.99 (USD 2.74) course on water fertilizers. The third course, at RMB 99 (USD 13.55) went deeper into grape cultivation.

Farmer Lu reports that the content was helpfully localised, relevant and professionally-delivered. Through interactive group chats and live streams, he has been able to resolve issues specific to grape-growing in a timely manner. He attributes increased yields and produce quality to what he has learned, and has enjoyed a 25% increase in income.

Cattle farmers, Hai Yuan county, Ningxia

In Hai Yuan county, Ningxia province, where more than 70% of the local population belongs to the Hui ethnic group, cattle farming remains very traditional and rudimentary. With the rollout of its new livestock courses in 2023, the local government engaged TTXN to provide online access to livestock training for up to 25,000 farmers in Hai Yuan. The programme has reached 5,000 farmers to date, helping them to upgrade livestock management in the region.

Outreach to cattle farmers in Haiyuan county, Ningxia province

TTXN Filming for Cattle Farming courses

it has taken slightly longer than expected for these projects to be funded, and hence implemented with the acute slowdown in the Chinese economy. Where B2B is concerned, the company continues to develop agriculture degree programmes and content for vocational colleges, leveraging deep relationships in industry and among practitioners.

2024: Strategic Manoeuvres in Response to Economic Conditions

Given the sharp slowdown in the Chinese economy, the management is taking a prudent approach to expenditure in 2024, with keen focus on internal efficiencies. The company will seek to drive sales in the successfully-piloted subjects in 2023. Data analysis will also be an important focus area, with a view to better understanding user demographics Other areas slated for attention in 2024 include new course development, marketing, and post-sales engagement.

Guangdong Jingqin Farmer Online Training (B2G)

In 2021, the Guangdong government partnered with TTXN to establish a dedicated 'online school' targeting an audience of one million farmers province-wide. Farmers gained access to more than 3,000 short courses tailored specifically for the terrain and crops of Guangdong. The course offerings included crop-agnostic fertilizer and pesticide application, sales and logistics, branding and marketing, and crop-specific courses, for example on lychee growing (a prominent fruit grown in the region). As of June 2023, the programme had attracted 750,000 registered farmers, 55% of whom used the platform weekly. Post-course engagement with farmers indicates that most have seen notable improvements in yields.

TTXN metrics	At investment[1]	As at 30 September 2023
% of users from provinces where the annual per capita disposable income is less than the 2021 national rural average RMB 18,931 areas[2]	88.0%	90.0%
Cumulative number of small holder farmers reached from B2C and B2G to date[3]	348,728	523,229

Contributions to Sustainable Development Goals (SDGs)

1 NO POVERTY
2 ZERO HUNGER
8 DECENT WORK AND ECONOMIC GROWTH
10 REDUCED INEQUALITIES

[1] As at May 2022.
[2] 90% (of users are farmers) x 88% (of users are from provinces where annual disposable incomes is less than 2021 national rural average of RMB 18,931).
[3] B2C as of end September 2023 while B2G numbers are as of end June.

ELSA

ELSA: the investment at a glance	
Country / region	Global / Vietnam
Initial investment date	July 2023
Business model	AI powered interactive speech learning solution to improve English speaking
Investment	USD 4.0 million
Structure	Preferred shares

Investment snapshot

In July 2023, AIIF II invested USD 4 million into ELSA Corp (ELSA), an artificial intelligence (AI)-powered interactive speech learning solution to improve English speaking. Using proprietary speech recognition technology and machine-based learning, ELSA's offerings enable learners to improve pronunciation, intonation and grammar, expand vocabulary and, critically, enhance understandability by others. Since inception, the ELSA app has achieved 54 million downloads by learners in more than 100 countries, with Vietnam being the largest market in terms of sales contribution. Currently targeting mostly young adult users of 25-35 years of age, ELSA offers three core products focused on speaking and speech analysis. Users are provided instant feedback in an adaptive manner that follows and shapes their learning trajectories.with personalized lesson recommendations. The uniqueness of the solution, in a crowded and valuable global English-learning marketplace, is that its analysis is multi-dimensional, detecting not only overall mispronunciation but identifying word segments misspoken and providing instructions for learners to correct their mistakes. ELSA also has solutions that provide comprehensive speech analysis incorporating aspects of vocabulary, grammar, intonation fluency amongst others.

The lion's share of ELSA's revenue is currently from business to consumer (B2C) sales. The app is available for purchase on several mobile app platforms, with Vietnam, Japan and Latin America having the most significant user bases. The company has ambitions to significantly increase its business-to-business (B2B) activities, with a focus on schools, tertiary education institutions, language learning centres and corporate customers. In economies where tourism is an important contributor to economic output, like Vietnam, and where locals need to serve English-speaking visitors is a challenge, ELSA can be an especially pertinent tool.

In Vietnam and other parts of developing South-East Asia—natural focus markets for ELSA—the impact of acquiring strong English skills can be very significant. There is extensive academic evidence that the ability to understand and speak English well has a positive impact on education, literacy, living standards and employment opportunities worldwide. Hence, the fact that fewer than 20% of college graduates in Vietnam met the B1 Common European Framework of Reference (CEFR) standard is a troubling data point. With traditional offline tuition unaffordable for most, especially private one-on-one or small group instruction, it is notable that more than 60% of ELSA users in Vietnam are located outside Ho Chi Minh City and the capital, Hanoi.

English proficiency is a challenge in for Vietnamese students

The quality of English-language instruction in Vietnam is poor, largely due to poor teacher quality and limited facilities. In fact, just 0.1% of upper secondary-school teachers meet national proficiency standards themselves[1], and it can be imagined that the quality

[1] **Source:** The International Academic Forum, Thuong Nguyen, National Chengchi University, Taiwan, 2017

Mr Leu, Thai Binh, Vietnam

Mr. Leu works as a self-employed an electrician and plumber and services airconditioning units, serving clients in Thai Binh. Previously, he was unable to speak English and had never tried to learn. He decided to learn the language to teach his daughter and to improve his job opportunities. Mr. Leu has been using ELSA for 2 years and practised on the app almost 2 hours daily. He acquired basic proficiency in the language solely by using the ELSA app. With the ability to speak English, he has been able to secure more work from expatriate and more affluent families, which generally pays double the rate of locals, as a result of that, he experienced a 25% monthly income increase , up from his previous income of USD 850/month.

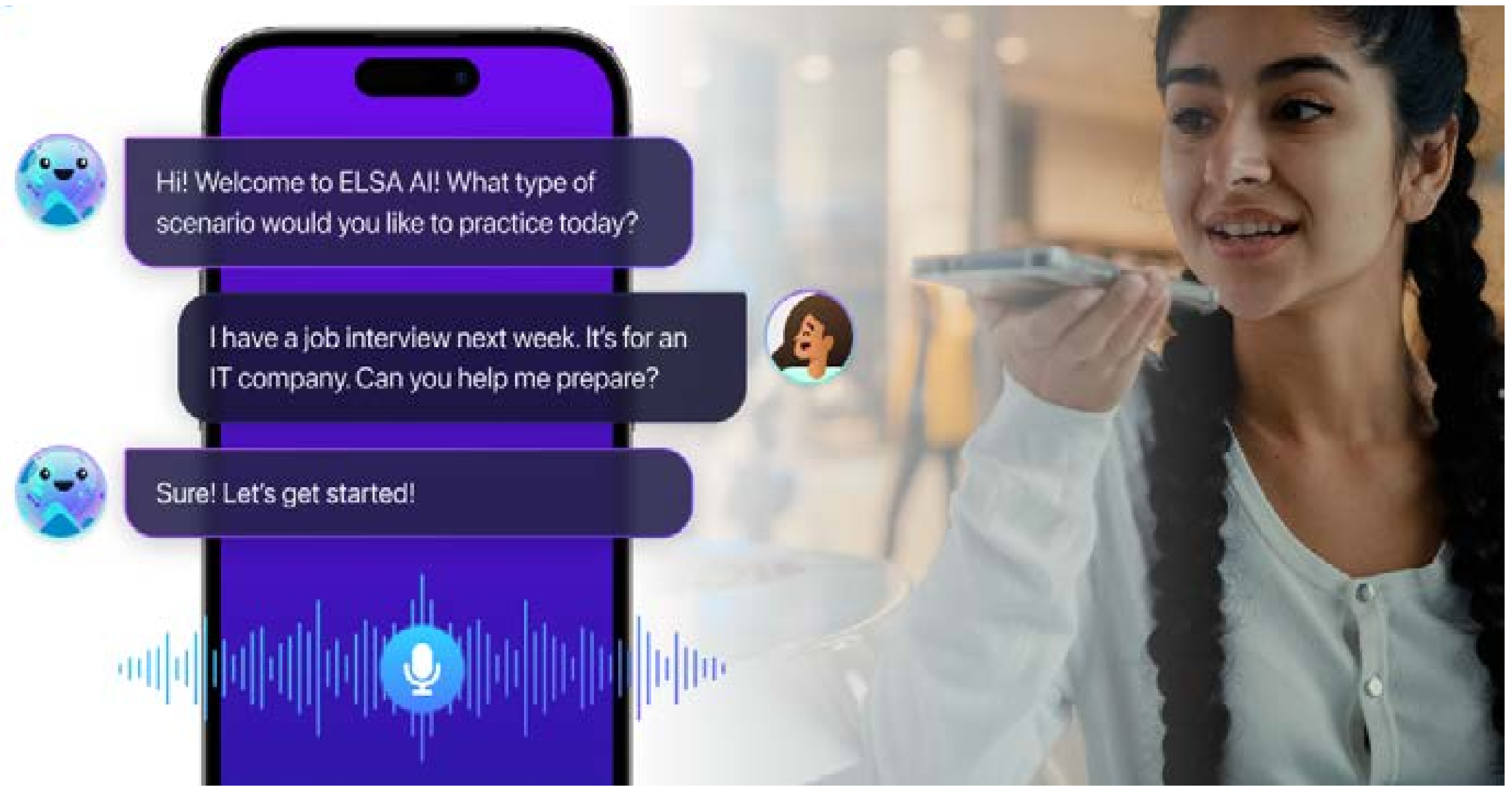
drops vertiginously outside major cities. They have limited access (let alone school budgets) to procure foreign language-learning resources for students, and few schools can provide the latest technologies that can markedly advance performance. Poor role models to mimic for accent, intonation and grammar, combined with the cultural element of embarrassment about speaking in front of others, means students have few opportunities to practice, let alone to be corrected accurately.

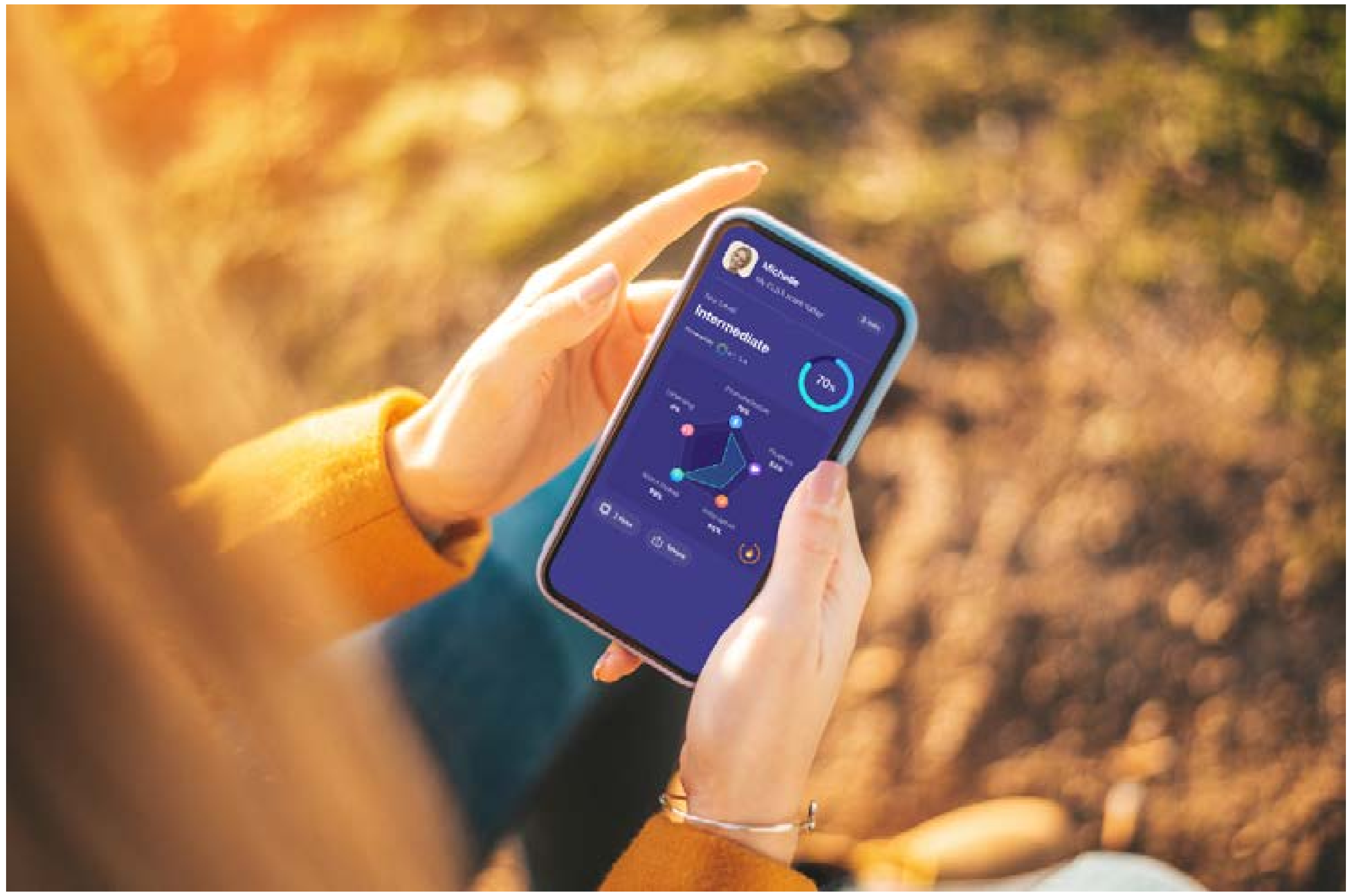
From K-12 to university students and young graduates, most Vietnamese of modest means struggle to access affordable English-language instruction, and have few opportunities to speak, be corrected, comprehend and gauge their comprehensibility by others (with the help of an instructor). Non-monetary aspects of the poverty penalty play a part. With a traditional preference for in-person instruction—precisely the model ELSA is seeking to complement and disrupt—the time and cost of travel to language schools are deterrents. Language schools can cost US$100-300/month, and the average student-teacher ratio is one-to-thirty. One hotel resort in Bali which is now an ELSA customer noted that attendance was a problem when staff were offered in-person English training classes.

The ELSA model addresses multiple challenges

ELSA's online solutions address various obstacles preventing widespread access to high-quality English instruction. Salient features in this regard include:

Product design orientated for non-native learners with emphasis on practice: The feedback mechanism of the ELSA Speak app has been crafted to enable practice and learning, especially for new learners with little or no introduction to English. An impressive data set of over 30 million hours of speech has been used





to fine-tune the corrective feedback function. The app is also able to guide the student towards specific areas for improvement over time.

Practical, relevant content, easily customizable: With over 3,000 lessons covering an extensive range of topics, content is contextualised, including common conversations such as self-introduction and work-specific topics for various industries, for example hospitality, call centres, general customer service, air travel and so on. For each, students are prompted with relevant dialogue grounded in scenarios likely to arise in their workplace. Schools and corporate clients can easily customize content on the platform.

Versatile technology: ELSA has, importantly, factored in variable connectivity and poor internet quality, persistent issues in many rural areas of Vietnam and other developing countries. The product development process took this into account in order to minimise disruption for non-urban users.

Outlook for 2024

Leveraging generative AI using large language models, ELSA has launched an artificial intelligence-powered voice tutor, ELSA AI, this year, which will engage students in immersive role-play scenarios with a personalized conversation tutor. In this way, students irrespective of location will be able to engage in dynamic, real-life conversations on diverse topics and to receive tailored feedback covering pronunciation, vocabulary, grammar, intonation and cadence, among other aspects of spoken English. The company will also be investing in impact assessment focused on better understanding user profiles and needs. Keenly aware that the largest potential user numbers lie in less affluent socio-economic segments, the company will continue to iterate solutions, and innovate in order to ensure that the maximum number of users can be reached affordably.

ELSA metrics	At investment[1]	As at September 2023
Total users in Southeast Asia [2]	3.46 million	6.37 million

Contributions to Sustainable Development Goals (SDGs)

[1] Cumulative from 1 Jan 2022 to 31 Mar 2023
[2] Includes both paying and non-paying users, more detailed statisics relating to BoP users will be provided next year after the Company's user surveys.

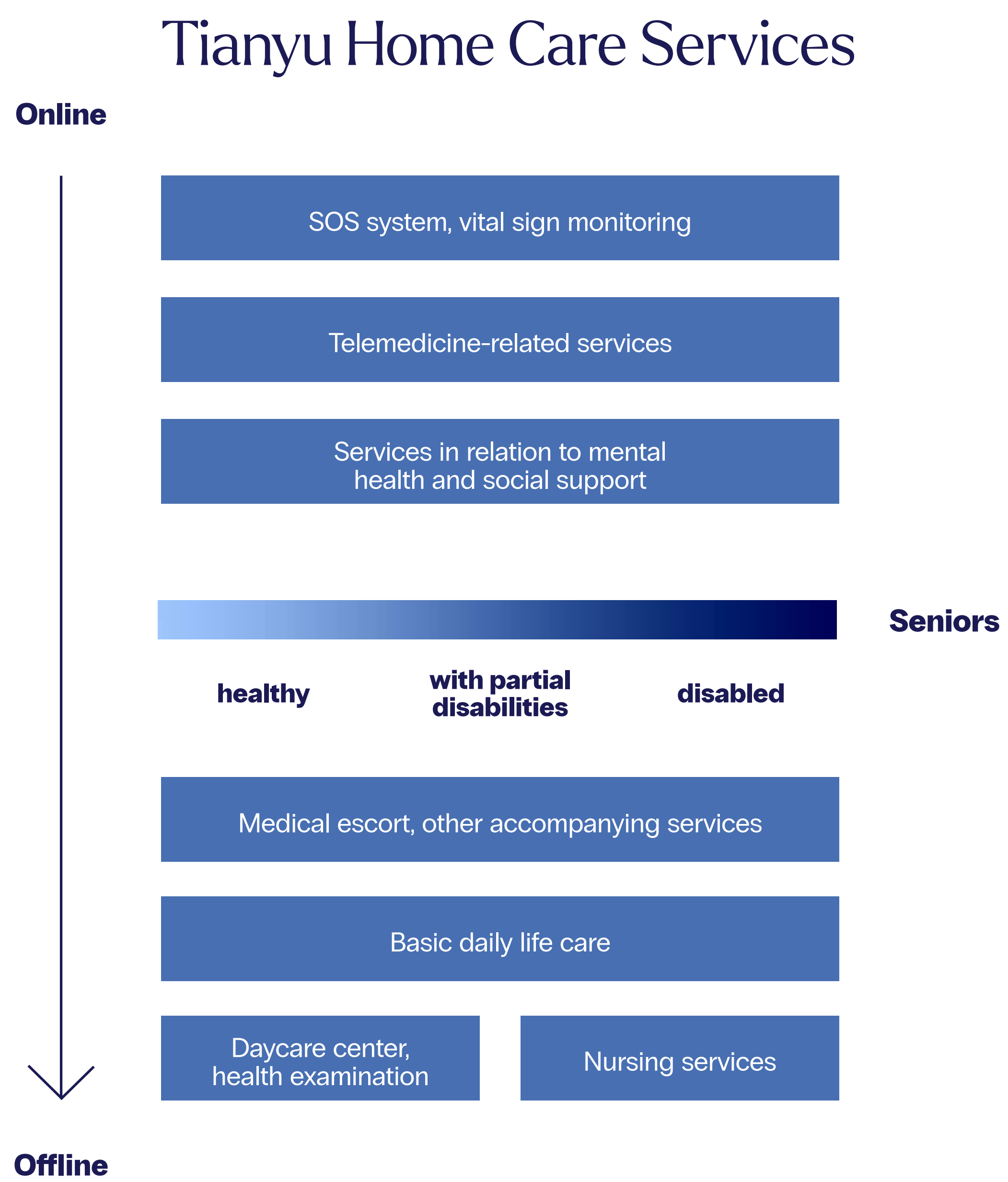
Tianyu

Tianyu: the investment at a glance	
Country / region	China
Initial investment date	July 2023
Business model	Provider of elder care services and related digital management solutions in China
Investment	USD 4.0 million
Structure	Preferred shares

Investment snapshot

In July 2023, AIIF II invested USD 4 million in Tianyu Infinity Wellness Technology Group Inc. (Tianyu), one of the largest private elderly care service companies in China. Tianyu provides a combination of digital 'smart' homecare services, in-person onsite care, institutional services to public-sector service providers and to community centres. Though in operation for just four years and notwithstanding the complications of the pandemic, Tianyu, now present in more than 50 cities, has grown exponentially to become one of the top elder-care service providers in China.

Fuelling demand for such services is the overwhelming challenge of a rapidly-ageing population in China, along with the effects, decades after promulgation, of the one-child policy, which held for decades. With over 210 million people aged 65 or older at the end of 2022 - nearly 15% [1] of the population - by mid-century this age group will include nearly 500 million people. Already a formidable structural challenge on many levels, the situation is exacerbated by China's unique so-called '4-2-1-1' problem. This refers to the frequent situation that one adult of working age finds himself/herself supporting two parents, up to four grandparents, and 1-2 children. Shifting demographics have added complexity, as urbanization has gutted rural areas of many working-aged people—in other words, the first-line carers—in search of work. It is little surprise, therefore, that the central and provincial governments



[1] **Source:** 2021 China National Population Census

welcome the entrance of private-sector players like Tianyu. The public sector is already over-stretched, and non-profit organisations, which account for just under half of service-providers, lack the drive, innovation and agility to meet demand. Considering that fully one-fifth of China's elderly already need assistance with daily living activities and that the number of older people with partial or full disabilities reached 40 million[1] in 2021, according to United Nations data, the country is sitting on a demographic timebomb.

Tianyu's frontline senior care services include assistance to the elderly with various daily needs including bathing, personal and oral hygiene, washing, dressing, grooming, wound dressing, vitals measurements, medicine regimens and purchases and so on. Additionally, care-givers can provide one or more of home-cleaning, massage therapy, rehabilitation and basic counselling. The company places great emphasis on care-giver training for geriatric contexts, including cardiopulmonary resuscitation (CPR), lifting and mobility. Beyond a fundamental focus on quality of life, the services aim to help seniors maintain, stabilize, regain or prevent further deterioration in physical, mental and emotional well-being. The care needs are complicated by the fact that 90% of seniors in China remain in their own homes, many live alone, and there is strong social stigma around, and resistance to, old age homes (of which there are too few of good quality).

Madame Zhang, owner, homebased eldercare service provider, Tong Shan District, Xuzhou city, Jiangsu Province

Madame Zhang is the founder of a homebased eldercare service provider in Tong Shan district. Initially, she focused on homebased daily assistance living services. She had been planning to apply for a licence for long-term care provision, but was put off by the complexity of the process and intimidating compliance regime if successful. Instead, she chose to work with Tian Yu, using the digital management platform to organise her business operations. She notes that the solution has helped her business to be more efficient, improve standards, and reduce risk of staff non-compliance.

[1] **Source:** China National Health Commission, March 2022.

Tianyu Dashboard

Striving for a higher standard of elder care in China

Tianyu's approach to tackling the enormous problem is to underpin frontline care-giving with efficiency and transparency-focused technology. By standardising, streamlining and rationalizing systems where possible, offline service provision is supported by online digital infrastructure enabling it already to serve over 400,000 seniors and, critically, to keep a close watch on quality. The digital platform also enables the company to equip other players to provide elder-care services where it is not present. Given responsibility for public elder-care provision falls to local government, the digital platform is also proving useful for local authorities to map needs and gaps in care provision. Big data, cloud computing, internet of things (IoT) and artificial intelligence (AI) are all brought to bear in Tianyu's digital platform, all with a view to improving the quality of care. This is especially so for China's Long Term Care Insurance program, for which majority of the service fee is reimbursed by the government and the technology is crucial for monitoring to ensure service quality and efficiency, as well as reimbursement.[2]

In a sector focused on very vulnerable people where reputation is paramount, Tianyu is cognizant that its entire value proposition rests on trust and quality assurance, and therefore training, monitoring, auditing and effective feedback loops. A rigorous service quality monitoring regime has been put in place, including third-party auditing and evaluation, along with regular client visits, spot-checks and post-visit follow-up. With this keen focus on quality and management supported by its strong infrastructure and emphasis on training, AIIF believes that Tianyu is competitively positioned for rapid growth in a sector already unable to keep pace with demand.

Madam Luo, Liuzhou, Guangxi Province

At 65 years of age, Madam Luo lives independently without family support. She relies on the government minimum subsistence scheme, which provides RMB 500 (USD 68) per month for expenses. Interaction with caregivers has become an important opportunity for human contact. The vulnerability of elderly, single Chinese is discernible in her constant worry that she will loose access to subsistence funds. Tianyu has assumed responsibility for engaging with government on the matter, helping to reduce her understandable anxiety.

[2] China's Long Term Care Insurance scheme was introduced in 2016 and by the end of 2021, the scheme was already covering 144 million seniors and is set to grow exponentially.

Tianyu metrics	At investment[1]	As at September 2023
Total number of unique seniors reached to date (cumulative) since establishment:	431,595	473,220
Total number of unique low-income seniors[2] reached to date (cumulative) since establishment:	115,279	130,738

Contributions to Sustainable Development Goals (SDGs)

[1] As of end April 2023
[2] Given that the Company receives the list of eligible seniors for each program from the government, specific data points which will qualify them for the most suitable type of care has been recorded by the Company. While there may be other seniors who may qualify under our Fund's BoP definition, we have taken the more conservative approach to focus only on 8 category profiles of the seniors as identified in the system.

Everlife

Everlife: the investment at a glance	
Country / region	China
Initial investment date	November 2021
Business model	A leading healthcare provider offering quality dialysis treatment, with particular focus on low-income patients across China.
Investment	USD 9.9 million
Structure	Ordinary shares

Investment snapshot

In November 2021, AIIF II invested USD 9.9 million into Beijing Changsheng Zhongkang Hospital Management Co., Ltd (Everlife), the largest provider of nephrology services (renal care) in China operating in 12 provinces (see map). The fastest-growing healthcare group specialised in nephrology, the business model benefits from the unfortunate indispensability of treatment. Patients cannot survive without 2–3 kidney dialysis treatments per week in hospitals and haemodialysis centres, patients with chronic kidney disease (CKD). Thus, even during the most aggressive waves and strictest lockdowns of the pandemic, provision has been made for CKD sufferers to access dialysis centres. The need for access to dialysis machines, requiring patient presence, renders this segment of healthcare services particularly "sticky", or inelastic in economic parlance.

Indeed, just under one-quarter of the population has access to nephrology services due to resource constraints. Moreover, the rate of end stage renal disease (ESRD) is climbing in China as conditions like hypertension and hypoglycaemia become more prevalent. With an estimated 3.3 million ERSD sufferers in 2020, China's public hospitals, which provide 98% of renal care, are overwhelmed, and because nephrology services are far less profitable than others there is little incentive to increase care. Hence, Everlife's market dominance and first-mover advantage position it strategically to service the haemodialysis (HD) market. As more public hospitals look to shift HD care to the private sector, the segment could reach over RMB 200 billion (USD 29 billion; source Frost & Sullivan) if the national treatment rate can be more than trebled from the current 24% to 80%. It is no surprise, therefore, that patient volumes and revenue at Everlife have been growing at 40% or higher.

Projected strong demand for nephrology in China underpins the company's two-pronged growth strategy: new facility construction, and mergers and acquisitions. On the first track, Everlife builds new facilities, either hospitals with dialysis services or dialysis-only centres. The size of facility depends on location and demand. The second track is effectively growth by acquisitions, which takes two forms. In the first, Everlife takes a majority stake in a hospital or dialysis centre or a chain of facilities. In the second, it takes a minority stake or staggers acquisition, where it works with local partners initially through minority stakes and then, when the facility is deemed to meet Everlife standards, it considers increasing to a majority stake.

Everlife continues to focus on lower-tier cities where there is burgeoning demand for affordable nephrology services which cannot fully be met. In this context, it is important to recall that an estimated 600 million Chinese live on an average monthly income of just RMB 1,000 (USD 137). Approximately 200 million people live on half that amount or less. The company's

geographical footprint speaks to this challenge. It currently operates 91 hospitals or dialysis centres in 43 cities across 12 provinces. Importantly, the company established operations in four new provinces in 2023: Jiangxi, Hubei, Chongqing and Shaanxi.

Approximately 90% of the 12,045 patients receiving treatment through Everlife as at September 2023 were low-income, correlating with the fact that 80% of the cities where Everlife has operations are classified as third-to-fifth tier. According to company data, more than half of Everlife patients live in extreme poverty and rely on government subsistence payments. Affordability still remains an issue which Everlife is working to address. Although government insurance covers 80-90% of treatment fees, the remaining 10-20%, totalling approximately RMB 12,000-18,000 (USD 1,640-2,460) per year, remains unaffordable for those living at the base of the pyramid (BoP; indeed, the fee range amounts to 60-70% of the average annual income of BoP families in China). Though the long-term objective must be for all patients to be able to cover co-pay obligations, it is not clear how or when this will be possible. As such, Everlife supports patients by sourcing a mix of grants and subsidies to cover gaps.

The resurgence of COVID-19 takes a harsh toll

A late wave of COVID-19 from November 2022 to early 2023 took a harsh toll on Everlife, with the virus claiming the lives of about 10% of Everlife's patients. The wave also presented significant operational challenges, as many staff members were incapacitated at all levels of the company and in partner facilities. Curiously, the company subsequently found itself treating numerous patients who previously did not have access to dialysis or were unaware of Everlife as an option for accessing affordable dialysis. This in fact stabilised patient numbers.

Nationwide medical insurance coverage for dialysis care remains stable

Thankfully for both renal patients nationwide and Everlife as a company, despite the impact of the pandemic and constraints on national and provincial budgets in the wake of the unprecedented economic slowdown, the medical insurance scheme which covers nephrology costs for those in need (see above) has not been cut. In fact, despite the challenging environment, management notes that fee recovery has improved in 2023 compared to 2021-2022, when the national medical insurance claim system was being overhauled. Given that nephrology services are essentially 'life or death' treatment, and that national outlays account for just 1% of government healthcare expenditure, Everlife is not unduly concerned about future cuts.

Over the past year, the acquisition model has enabled Everlife to venture into previously untapped geographic regions, broadening its patient reach significantly. Notably, while maintaining a rigorous standard of assessment and setup, the company has achieved this expansion with a more cost-effective initial investment, accelerating the establishment of new centres and hospitals compared to its conventional models of organic growth and mergers and acquisitions.

Outlook for 2024

Everlife is steadfastly focused on its expansion plans to penetrate more cities. Meanwhile, the company is looking to its medium- and long-term financial positioning by working towards listing on a major stock exchange in the region.

Facility Snapshot: Zhao Tong An Kang Nephrology Hospital, Zhao Yang district, Zhao Tong city, Yunnan province

Health authorities in Zhao Tong, a city of nearly 5 million in Yunnan Province, suggest that nearly 6.5% of the population suffers from a degree of kidney function deterioration. The situation is particularly acute in the Zhao Yang district, home to Everlife's recently acquired Zhao Tong An Kang Nephrology Hospital. In the past, an unfortunate confluence of circumstances was in evidence, including financial constraints, inadequate transportation arrangements for patients, and a shortage of treatment facilities, resulting in nearly 20% of those needing dialysis unable to access it.

80% of the patients from Zhao Tong An Kang Nephrology Hospital come from very low-income households, and as such, benefit from government subsistence schemes. Given their economic and financial circumstances, they often postpone seeking treatment until their kidney ailments reach an advanced stage. In many cases, co-morbidities and other illnesses complicate their treatment profiles. Since acquiring the hospital in March 2022, Everlife has successfully doubled the number of patients in treatment to 172. The availability of affordable care becomes critical as an intervention in the downward spiral of financial strain and interrupted or halted work due to diminished capacity. Despite access to treatment, the financial strain imposed by frequent and costly care, diminished work capacity, varying levels of family support, inadequate nutrition, and the time burden of dialysis, has led many patients in the past simply to forgo treatment, with dire, often fatal, consequences.

Everlife metrics	At investment[1]	As at 30 September 2023
Number of low income patients who have gained access to dialysis treatment[2]	5,073	10,761
% of hospitals in lower tier cities (tier 3 and below)	84.0%	80.0%

Contributions to Sustainable Development Goals (SDGs)

[1] As at July 2021
[2] The number of low income patients that the Company has assisted in managing their treatment costs, so that they can continue to receive dialysis treatment.

Evermos

Evermos: the investment at a glance	
Country / region	Indonesia
Initial investment date	August 2021
Business model	Digital commerce platform enabling low-income resellers in Indonesia to become digital entrepreneurs
Investment	USD 11.0 million
Structure	Preferred shares

Investment snapshot

Launched in 2018, Evermos is an Indonesian digital commerce platform that supports and empowers local entrepreneurs, mostly women, in lower-tier towns in Indonesia, to become resellers of Muslim merchandise. The platform also provides a wide distribution network for goods produced by local SMEs who often have challenges expanding their distribution beyond a small region. The primary beneficiaries of Evermos' model are the resellers who gain access to, and can increase their revenue through, engagement with the digital economy by carrying mostly Muslim products used in the daily lives of the community. The resellers can start a business leveraging the Evermos platform with no capital outlay and increase monthly takings significantly. At the time of investment, the company had a network of more than 190,000 resellers across the archipelago.

From an impact perspective, the company's dual impact, or impact multiplier, was especially compelling for AIIF II. In addition to fostering local entrepreneurship and boosting reseller incomes, more than 95% of available merchandise is sourced from local SMEs, including halal health and beauty products, food and beverages, and religious and educational materials. Larger e-commerce platforms have tended to address more general needs, in contrast, by focusing on products suitable for the typical muslim lifestyle and integration of online technology and offline distribution, Evermos has in many ways anticipated, and is now accelerating demand for, values based commerce for a large segment of the population. In a country of nearly 300 million people spread over some 18,000 islands, this also gives the Fund the opportunity to build sustainability and, critically, awareness of the impact of consumer and supplier choices, into the company's ethos and stakeholder universe.

Evermos is positioned for success in an evolving e-commerce regulatory framework

In 2023, the Indonesian Ministry of Trade (Kemendag) introduced new regulations governing online trade in a bid to keep up with the country's burgeoning e-commerce industry. The intention is to safeguard the interests of local SMEs and brands, and to better manage the inflow of foreign imports. Evermos is likely to benefit from the regulatory modifications thanks to its unique business model and strategic positioning. Three dimensions of the regulatory update are particularly relevant in this regard:

1. **Clear definition of social commerce:** The regulations draw a clear distinction between traditional e-commerce and social commerce, the latter a concept which is evolving in Indonesia. What the Indonesian government has sought to do is to ban commercial activity within social media platforms, referred to in Indonesia as 'social commerce'. Essentially, the regulations allow social media companies to advertise products on their platforms, but not to facilitate

transactions. Evermos is not expected to be negatively affected by these regulatory changes because its platform does not correspond to the conventional definition of social media. As a facilitator-broker within the commerce landscape, creating connective tissue that binds local producers and brands, resellers and consumers, Evermos' expansion should benefit from the dynamic growth in both social media and e-commerce.

2. Restricting direct competition between e-commerce platforms and local merchants: Another significant change in the regulations pertains to the prohibition of e-commerce platforms selling their own products to consumers. E-commerce operators are urged to comply with the Indonesian Competition Law, to give all merchants an equal opportunity to do business and take measures against price manipulation and unfair competition. The authorities are concerned about large platforms crowding out smaller size merchants.

3. Minimum selling prices for sales of imported products: The new regulation also requires e-commerce platforms to set a minimum price of USD 100 for foreign goods sold directly on their platform from offshore merchants. Once again the clear intention is to protect local SMEs. In Evermos' case, most products are sourced for the platform locally. As such, the company is classified to be a promoter of Indonesian-made product.

Empowering resellers through offline communities

Offline communities, often referred to as *kopi darat* or *kopdar*, have become key participants in the Evermos ecosystem, playing a vital role in fostering reseller development and a sense of belonging to the Evermos network. These offline communities consist of resellers led by a reseller coordinator *kori,* typically selected because of out-performance, business acumen, and the ability to coach and inspire fellow resellers, among other criteria. It is noteworthy that most *koris* are female, underlining Evermos' commitment to empowering women entrepreneurs in rural Indonesia.

The offline communities are far more than simple platforms to discuss matters related to working with/through Evermos. In addition to sharing strategies for selling more products on the platform and discussing upcoming promotions by partnering brands, the gatherings touch on broader personal and household topics. Resellers share insights on effective parenting, household fire management (often in collaboration with local fire departments), personal and family finance management, and techniques for boosting self-confidence. The impact of these offline communities on resellers' lives is significant.

Offline communities continue to thrive

In the year to October 2023, Evermos has seen remarkable growth in its offline community initiative, with over 1,800 communities actively operating across the islands of Java, Sumatra, and Sulawesi. The company has plans for further expansion, aiming to extend the reach of these communities even more widely. Unsurprisingly, Evermos has noted a strong correlation between regular attendance at *kopdar* sessions and improved reseller performance. Resellers who actively engage in offline communities tend to excel, showcasing the positive outcomes of Evermos' commitment to fostering a supportive knowledge-sharing ecosystem.

Reseller Profile: Ibu Erry, Cingcin region, Bandung, West Java

"I'm not selling products, I'm selling trust."

Ibu Erry, a telemarketer earning minimum wage of USD 300 a month at a local hotel, joined Evermos in October 2022. It was her husband, a seafarer on a large cruise line, who happened upon an advertisement for Evermos on Instagram and convinced Ibu Erry to become a reseller. Initially reticent about joining the platform, Ibu Erry soon discovered that she did in fact have strong sales skills, having managed to sell up to four beanbags per week during her first month on the platform. This initial success spurred her to expand her product offering, which now includes rice, laundry softener, dishracks, and tote bags, among other goods.

Ibu Erry's perspective on Evermos' business model goes beyond mere commerce. She views herself to be in the business of building trust, emphasizing that as a reseller, that is her value proposition. She believes that Evermos' commitment to maintaining high product quality is the key to this trust, a philosophy that also resonates with her own values and aspirations as a reseller.

Becoming an Evermos reseller has had a significant impact on Ibu Erry's livelihood and quality of life. Her income has jumped by approximately 50%, a critical contribution, especially during the months when her husband's earnings were interrupted by the pandemic. As a result of the increase in household income, Ibu Erry has more resources to allocate to her children's education.

Outlook for 2024

2024 will be a strategically important year for Evermos as it looks to extend its footprint and diversify distribution channels beyond Java. Eventually, it aims to cover the entire archipelago, though that is some way off. The company continues to expand its product offering including exploring private label offerings. It first pursued the private label approach in response to strong demand for Muslim women's fashion products by partnering with a small local producer to develop the product line. This collaboration has seen early success, and the Company may expand its private label portfolio to potentially include other products like men's fashion, cosmetics and food products. The move will enable Evermos to build greater awareness and solidify its position in the Indonesian consumer's wallet spend, whilst steadily building up the number of reselling agents it needs to service demand.

Evermos metrics	At investment[1]	As of September 2023
Number of active resellers[2]	16,319	198,332
% of resellers from lower tier[3] cities	45.9%	85.2%
Number of offline communities	358	1,905

Contributions to Sustainable Development Goals (SDGs)

[1] As of March 2021
[2] Resellers who have made at least 5 transactions in the last 12 months
[3] Tier 3 or lower

Ricult

Ricult: the investment at a glance	
Country / region	Thailand
Initial investment date	June 2022
Business model	An agriculture technology platform that utilizes data, analytics and machine learning to provide services to stakeholders in the agriculture supply chain
Investment	USD 2.9 million
Structure	Preferred shares

Investment snapshot

Ricult is an agriculture technology (ag-tech) company that uses data, analytics and machine-learning to provide tailored information to actors and stakeholders in the agriculture supply chain, with operations in Thailand and Pakistan. Its core offering is a platform, comprising an app that farmers use on tablets or smart-phones to optimise crop-selection, sowing and planting schedules, planting locations and harvesting. The platform is also accessible to stakeholders in the agriculture supply chain including mills and crop processors.

Ricult onboards farmers using both in-person strategies involving partner field teams—input suppliers, mills, local authorities—and through digital marketing targeting more technology-savvy farmers directly. Word of mouth is another important dynamic. The main target beneficiaries are small-holder farmers who struggle with a host of structural challenges entrenched in Thai agriculture: a high degree of fragmentation, information asymmetries and poor price discovery, high prices of logistics and transportation impeding aggregation, lack of access to finance at affordable interest rates, especially for inputs and heavy intermediation by middlemen, among many other factors. In addition, the agriculture market can be subject to distortions, at times severe, due to sudden changes in agriculture policy often in the interests of short-term political expediency. Rice subsidies are a familiar example.

In the context of the structural complexity and inefficiencies that best Thai agriculture, Ricult's farmer app makes an essential contribution to increasing predictability, reducing risks and ultimately boosting revenues at the farm level. The app provides its 380,000 registered farmers with vital data points, including localised weather forecasts, severe weather warnings (floods and droughts), crop-health monitoring tools and prevailing prices paid at mills. The impact of 'hyper-localised' weather forecasts down to the individual farm level, cannot be overstated for two reasons.

First, the weather can differ significantly in the space of just a few kilometres. Some fields may receive plentiful rainfall whilst none falls on farms just a few kilometres away. Climate change is increasing this variability. Second, farmers cannot risk relying on provincial weather forecasts. They are often inaccurate and notoriously unhelpful for long-term forecasting. Medium and long-term weather data are more important than ever for farmers in the context of climate change, and inaccuracies can make the difference between moderate or above-average earnings or, if crops fail, none at all.

The company's other main web-based solution is enterprise software that enables agricultural processors like mills to track farmers' performance, estimate anticipated crop yields and adjust their supplier mix accordingly, compensating for shortfalls if some are unable to produce required amounts. A convenient app for field agents also allows for monitoring and easy data collection, which can quickly be relayed to institutions. Ricult has several revenue streams, principally subscription fees, which typically range from USD 10,000–USD 100,000 per annum, depending on the coverage areas and other factors. Customer satisfaction is enabling price increases, as customers, especially mills' cost savings and profitability are positively affected by improved data, planning, and supply optimisation (sources and quality). The company is also exploring opportunities in agricultural finance, including input and pre- and post-harvest financing. Ricult also generates revenue from farmer referrals to banks (under pilot) and data-driven credit-scoring solutions.

Ricult's agricultural finance revolution: helping Thai farmers bridge the financing gap

In response to the perennial challenge in Thai agriculture of access to affordable financing, Ricult is working on new approaches to disrupt current bottlenecks. With a substantial proportion of agricultural finance sourced informally in the country, various obstacles, from crop and weather risk to a lack of sufficient collateral, make most banks reluctant to lend to farmers. Even when formal lending occurs, a disconcerting pattern has emerged in the use of funds obtained from the Bank for Agriculture and Agricultural Co-operatives (BAAC). A significant proportion of borrowers have utilized BAAC loans for personal expenses, subsequently entangling themselves in an ongoing cycle of interest payments, with little progress towards principal repayment.

In response to this predicament, Ricult has embarked on a mission to reduce farmers' dependence on informal loans, collaborating closely with its lending partners to pioneer various agricultural financing programmes. More than 200 farmers have participated in the pilot initiatives to date. One partner in this endeavour is a Japanese strategic investor, which has not only provided capital and operational support, but has also seconded a business development staff member to help build the programmes.

Beyond financing, the company has introduced sophisticated crop monitoring and yield forecasting tools, which contribute to the development of a comprehensive credit scoring system. The score is generated through a multifaceted evaluation, considering factors such as farm size, crop type, and past farm performance. Ricult has also, notably, incorporated psychometric assessments into its credit scoring mechanism, enhancing the accuracy and relevance of evaluations.

As at the time of publication, Ricult was closely monitoring harvest performance and repayment patterns of farmers participating in its agricultural financing initiatives. Critical learnings can hopefully be incorporated into future iterations of a product or products that can be rolled out to more farmers thereafter.

Ricult app user and pilot loan programme participant: Khun Suvimon, Tak, northern Thailand

Khun Suvimon, a seasoned farmer with ten years' experience in the northern region of Tak, has seen a marked improvement in the performance of her farm since using the Ricult app, to which she was introduced by a local village leader and middleman, Khun Ten. Since 2021 she has been a regular user of daily weather forecasts and market pricing data, allowing her to make strategic decisions that affect crop health, yields and ultimately her earnings. The Ricult app has helped her to increase predictability and to plan more effectively. Whereas she used to produce an average of 2-3 tonnes of cassava per rai (0.4 acres) before using the Ricult app, in 2022 increased output to an average 5 tonnes per rai.

She notes that the additional income has enabled her to increase the amount of land under cultivation, acquire a vehicle and spend more on her children's education.

Khun Suvimon recounts that her experience with BAAC loans have been mixed. While they certainly have been a source of finance where so little is available to her as a farmer, they come with the cumbersome requirement of having a guarantor. The challenge has been that often she has needed finance on relatively short notice in the past because she is reacting to a weather event or forecast. She notes that in this sense, Ricult's loan offering aligns more closely with her needs. Communal loan assessment and disbursement brings a sense of camaraderie and, most importantly, this formal source of finance enables her to eschew the loan shark option, which is pervasive in her community.

Ricult X: Pioneering global agri-tech solutions

Ricult's ambitions extend far beyond its operations in Thailand, and it is hoping that there will be strong demand in many agricultural settings for its data analytics platform, Ricult X. The attraction of Ricult X is the provision of valuable commodity harvest and price forecasting reports which, when integrated with the proprietary weather prediction feature, enable yield predictions with an accuracy rate of 98%. This positions Ricult X to be an invaluable tool for commodities traders, farm owners, and possibly even global food and beverage majors, all of which depend on data for effective supply chain management. In a bid to shore-up Ricult X's competitive edge, it has integrated Synthetic Aperture Radar (SAR) imagery into the system. In the past, cloud cover has self-evidently affected the ability to forecast accurately. SAR technology enables forecasting to effectively 'cut through' the obstacle, improving accuracy, crop-detection capability and forecasting precision. Further, the user experience has been improved with the introduction of a more user-friendly interface and additional features for crop data collection.

Outlook for 2024

Ricult recently closed a round of financing with support from existing investors, including AIIF II. It is downsizing operations in Pakistan, following severe floods and currency depreciation in Pakistan, focusing instead on Thailand and Vietnam. Meanwhile, the Fund is supporting management to develop innovative solutions for its pilot loan programme. The company is engaging with development finance institutions (DFIs) to explore the possibility of using guarantees to unlock participation by local funding partners.

Ricult metrics	At investment[1]	As at 30 September 2023
Number of active farmers who have used Ricult's App at least once in the last 3 months	83,721	80,066
Number of low income active farmers reached to-date[2]	194,027	266,679

Contributions to Sustainable Development Goals (SDGs)

[1] Only for Thailand operations, as of end February 2022
[2] Based on assessment of Thailand's Gross Provincial Product (GPP), 69.6% of Ricult's active farmers are located in provinces where the average farmer is considered low-income according to the Fund's definition.

Tanihub

Tanihub: the investment at a glance	
Country / region	Indonesia
Initial investment date	April 2021
Business model	Sourcing and distribution of agricultural produce from small farmers, including provision of agricultural loans and technical assitance.
Investment	USD 7.1 million
Structure	Preferred shares

Investment snapshot

AIIF II invested USD 7.1 million in Tani Nusantara Pte Ltd (TaniHub), an agricultural technology company in Indonesia that connected farmers with buyers in urban centres, such as hotels and restaurants. Its business model was centred on intermediation and efficiency-gains to smooth the sourcing and distribution of agricultural products.

Central to TaniHub's strategy was resolving systemic inefficiencies that disadvantage farmers. Traditionally, produce buyers in Indonesia source from offline suppliers who, in turn, work through layers of intermediaries. In this way, market information and price discovery are kept opaque for farmers, while the needs of the end-buyer fail to be communicated. By contrast, the TaniHub platform enabled buyers to signal their needs and specifications so that Tanihub can source directly from the producers/farmers, hence streamlining the supply chain.

A turbulent year leading to a write-off

2022 proved a challenging chapter in TaniHub's evolution. Although Indonesia pulled out of the pandemic throughout the year, the virus had inflicted extensive damage on the business and undermined the creditworthiness of SME businesses and hence the gross margins of the business.

As collection of accounts receivable deteriorated, tensions in the management team became more pronounced, prompting a change in senior leadership and the appointment of a new CEO with a strong track record in venture capital and turn-arounds. A new finance director was also contracted. By the third quarter of 2022, the company was struggling under its mounting debt burden and cash shortages, and the resignation of the new CEO by the end of the year was a significant further blow, rendering further finance all but impossible to raise. Unfortunately, business activity was suspended in 2023 and the Fund has written off its investment.

Tanihub: Key Impact data	At investment[1]	As at 30 June 2022
Active number of farmer groups with whom TaniHub has transacted[2] (cumulative)	404	689
Active number of individual farmers with whom TaniHub has transacted (cumulative)[3]	18,200	28,310

Tanifund metrics	At investment[4]	As at 30 June 2022
Total amount disbursed since June 2017 (IDRm, cumulative)	174,006	510,666

Contributions to Sustainable Development Goals (SDGs)

[1] As at end December 2020
[2] Data from May 2018
[3] Data from May 2018
[4] As of end December 2020

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