

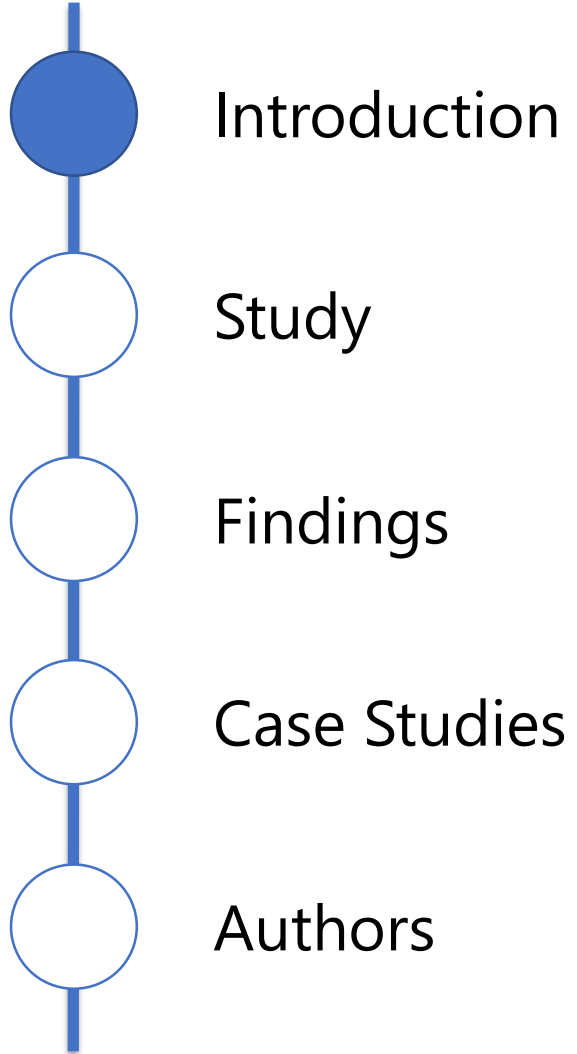
Scaling Digital Health Innovation in Asia

BASH, Level 3, 79 Ayer Rajah Crescent

Singapore | August 7th, 2019



AGENDA



Definition of digital health for the scope of this study

- **Includes** all ICT-enabled healthcare-focused innovation
- **Excludes** application of ICT technologies for the optimisation of robotics, surgical technologies, biomedical innovations and financing technologies

“Investment in digital health totaled \$6.3 billion in Asia in 2018”¹



- 3rd largest digital health ecosystem in Asia Pacific²
- 269 HealthTech startups in Singapore, >20 prominent digital health startups.³
- SGD19B 5-year government budget (RIE2020) with priority domains in both digital economy and health sciences²
- 26 digital health funding deals in Singapore in 2018, totaling USD134M⁴

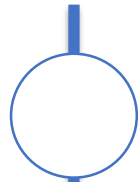
1 Oliver Wyman Healthcare In Asia: Predictions For 2019 And A Look Back At 2018

2 Research, Innovation and Enterprise 2020 Plan

3 Tracxn Explore

4 Galen Growth Asia's 2018 Full Year Analysis

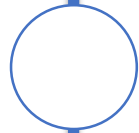
STUDY



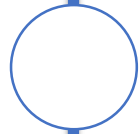
Introduction



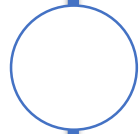
Study



Findings



Case Studies



Authors

Study Objectives

This study identifies the pathway for digital health innovations to scale from Singapore, and identifies critical success factors and bottlenecks

Objective

1

Understand the pathway for digital health innovations to scale from Singapore to the region (ASEAN or Asia)

Objective

2

Identify and describe the critical success factors and bottlenecks of scaling innovation out of Singapore

Objective

3

Highlight strategies and initiatives from the payor, provider and startup perspectives in scaling innovation in the region successfully



Desktop Research

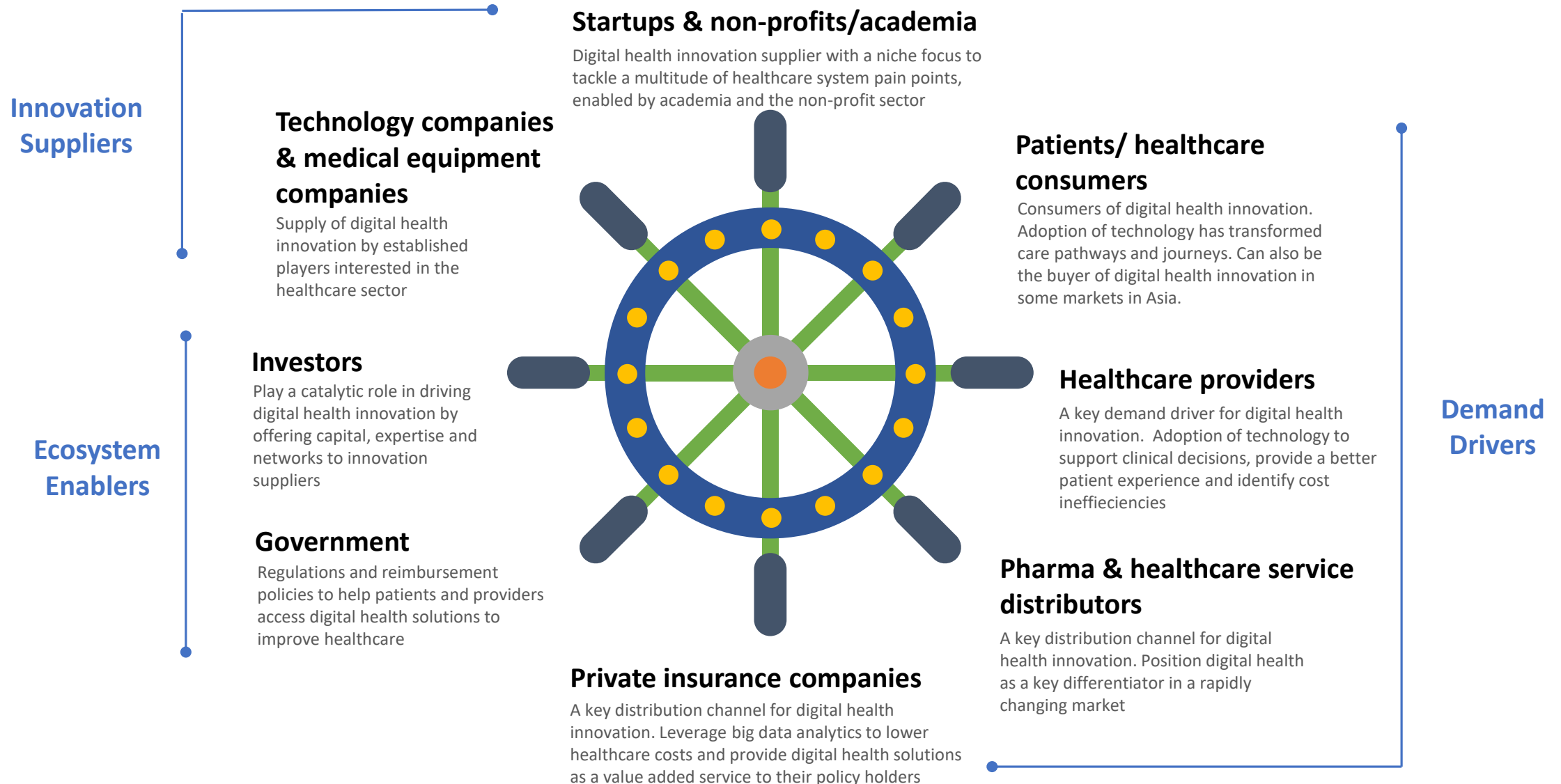
- **Identify key digital health players including:**
 - Digital health startups that have regionalised or are on the cusp of regionalisation.
 - Startups selected were those that have (1) market access beyond Singapore; and/or (2) raised at least Series A funding
 - Industry players that have scaled innovation from Singapore



Expert Interviews

- **Semi-structured qualitative interviews with identified participants:**
 - Digital health startups
 - Major pharmaceuticals
 - Private Insurers
 - Private hospital groups
 - Distributors
 - Technology companies
 - Investors
 - Relevant NGOs

There are various players in the digital health ecosystem



We interviewed twenty six leading digital health innovation suppliers, demand drivers and enablers

11 Demand Drivers

Three private healthcare groups, four private insurance companies, two pharma companies, one healthcare distributor, and one medical technology system provider

11 Innovation Suppliers

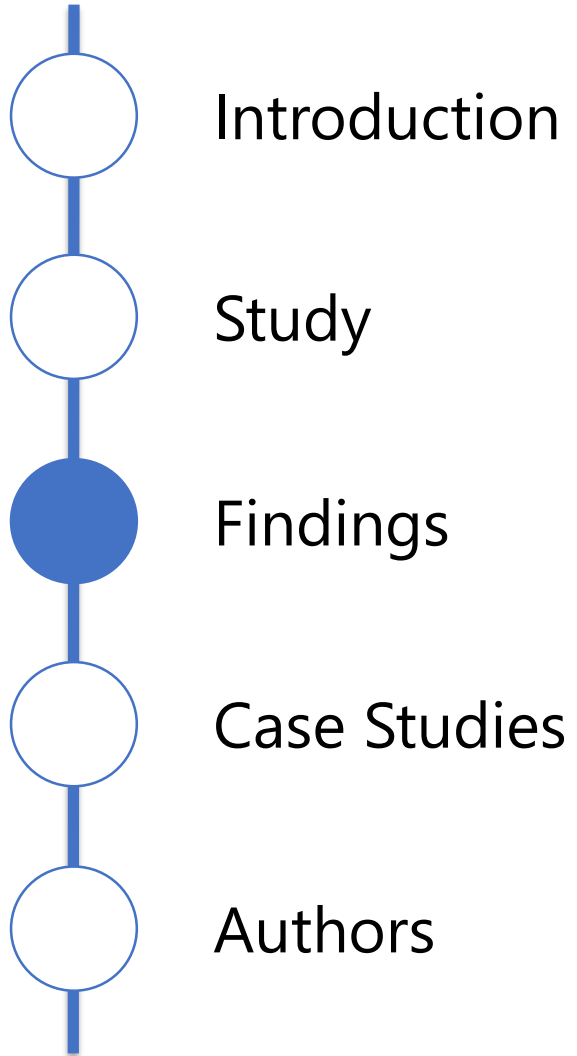
Nine leading digital health startups, one technology company and one medical equipment supplier focused on digital health innovations that lead to:

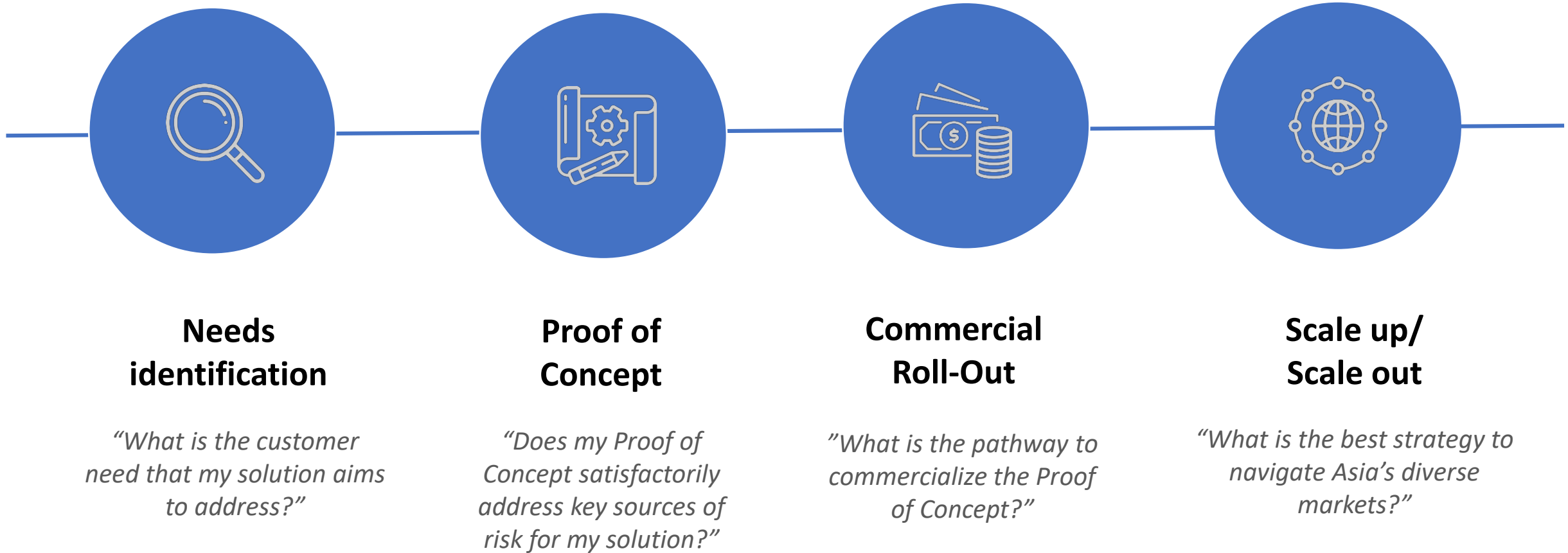
- **Patient empowerment:** innovations that empower patients to get involved in their own health E.g. wellness and lifestyle, telehealth, remote digital monitoring devices, wearables, health exchanges/ marketplaces
- **Improvements in clinical decision making:** innovations that are focused on clinical decision making, care management, or EMR/Health IT and bridge different healthcare stakeholders or healthcare settings (e.g. between nurse-home, doctor-hospital)

4 Enablers

Three investors, and one non-profit

FINDINGS





It starts with having a precise understanding of the customer's needs

73%

of participants indicated that identifying and characterising the right set of customer needs is a key challenge to scaling

However, this is complicated by...

Consumers



Diverse Consumer
Sub-Groups

Across national markets,
significant disparities exist in:

- Disease profiles
- Socio-economic levels
- Technological literacy



Healthcare Systems



Diverse Healthcare
Systems & Standards

Across national markets,
significant disparities exist in:

- Clinical infrastructure
- Care standards across Asian
- Patient and clinical needs

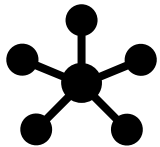
Successful Innovators have a nuanced understanding of the well-defined and validated need they are solving for

Define Needs



Focus relentlessly on defining the customer and the pain points to solve. Valuable pain points are those present across different markets.

Understand Context



Needs are unique to the context. Understand the environment in which healthcare decisions are made.

Validate and Iterate



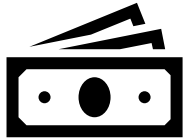
Real needs are reflected through user behavior. Seek out data on real decision-making patterns, and use it to iterate the needs identification process. Be clear about what needs to be validated first vs later.



“Start-ups who scale successfully are clear about the problem and pain point that they are solving and the market needs to be sizeable.”

- *Corporate investor in digital health*

Investing resources to get it right



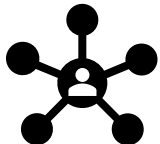
Companies built market specific in house teams and hired external research firms to build the best possible understanding of their target customer and the local decision making environment.

Working with local partners



Seek out partners who see value in your solution, and who can navigate the entrenched interests and dynamics of the market.

Validating with experiments



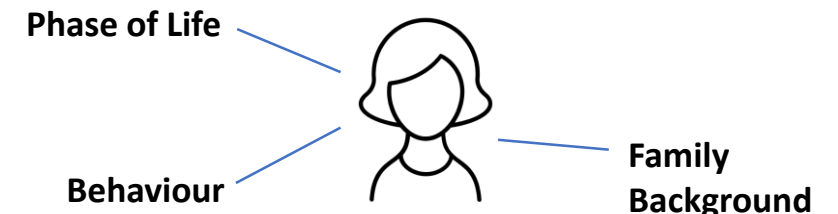
Innovators experiment using Freemium models and A/B testing to pin down real needs exhibited when customers use their products.

Case Study: Partnerships for successful needs identification



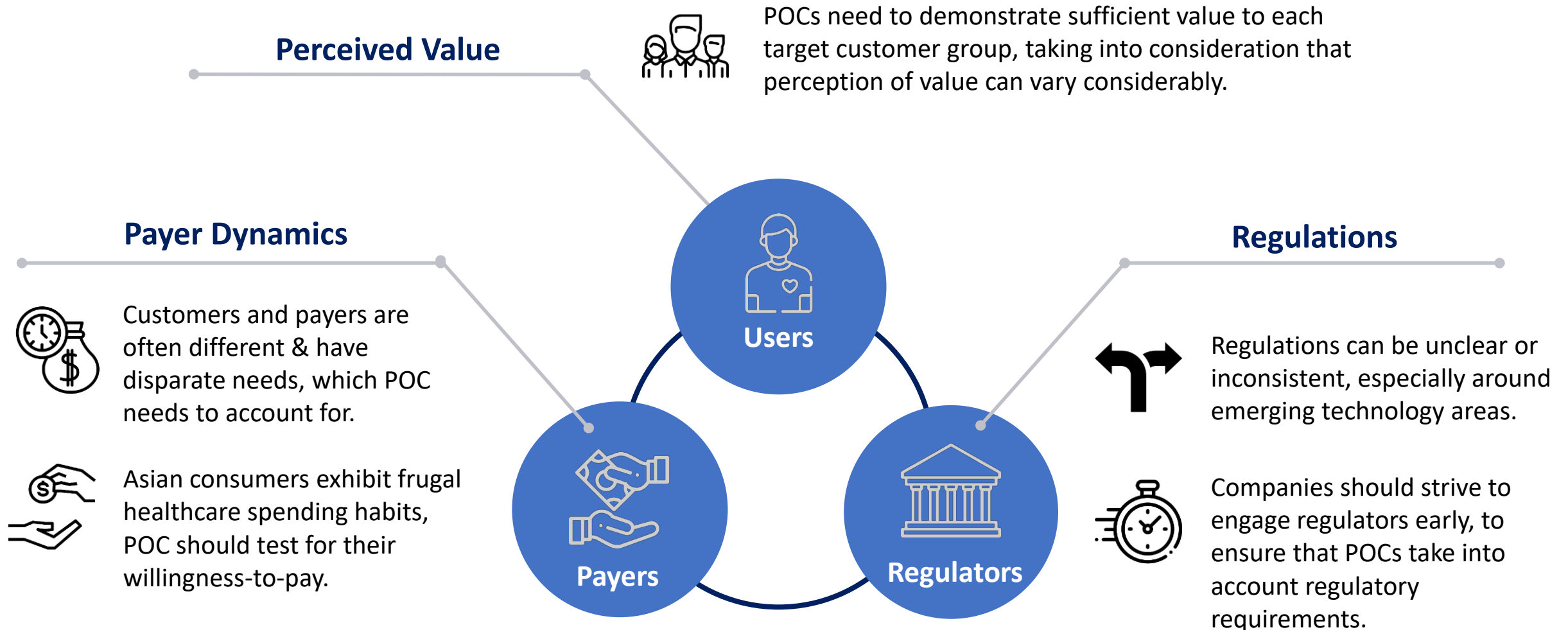
Digital health start-up Savonix leveraged incubator Lumenlabs' in-country networks to conduct research on specific needs and behaviour of its pan-Asian consumers

The companies were able to build specific customer profiles that helped the need identification process



Proof of Concept

The Proof of Concept should help address key risk factors: three have been commonly cited by companies



Pick the right market



Companies will need to make the right trade-offs to pick the test market, recognising that solutions piloted in one market do not easily scale to another.

Demonstrate evidence-based outcomes



There is an increasing focus towards using real world evidence to demonstrate value and build track record.

Find the Right Test Environment



Seek out dedicated test environments such as regulatory sandboxes or hire regulatory consultants that can provide access to capabilities and experts.

Case Study: Key Opinion Leaders' crucial role in a successful PoC



Biorithm is a Singapore-based start-up that combines wearable sensors and data analytics to monitor pregnancy data



Biorithm engaged multiple KOLs across three countries who were instrumental in:

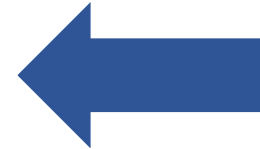
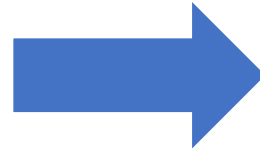
- Uncovering new use cases
- Providing data to build evidence for adoption

55%

of participants highlighted that the inability to translate PoC to commercial adoption is a key challenge to scaling regionally



Innovators



Demand Drivers

Top challenges faced:



Resource-consuming PoCs without leading to commercial contracts



Lack of clarity on decision makers for PoC and commercial adoption, with no clear process between both stages

Bridging gap between both parties is key to translating PoC to commercial contracts



Procurement guidelines with metrics that discriminate against small companies with short track records



Lack of strategic alignment between innovation teams conducting PoC and commercial teams

Innovators



Know The Key Stakeholders

Identify 'internal champions' and obtain buy-in from decision makers through active engagement



Agree on clear metrics of success

Set tangible metrics that will lead to commercialization once achieved



Seek Out Tangible Pathways

Seek partners with a clear and specific use cases to commercialize successful PoCs

Case Study: Seeking tangible pathways to translate PoC to commercial adoption



AI-tech enabler, UCARE.AI broadened their search for use cases from only government hospitals to private groups

Decision-making processes in public health systems is more diffuse and challenging to navigate

Long sales cycles mean higher costs and more valuable time spent on each project – to succeed, UCARE.AI needs to be agile



UCARE.AI partnered with Parkway Pantai, which adopted its AI-powered bill-size prediction tool within 4 months of a successful PoC

Demand Drivers



Implement “Innovation-Friendly” Procurement Policies

- “Spiral Contracting” – a model explored by Singapore’s public healthcare sector to give credit to innovators who participated in PoCs
- Increase risk thresholds (e.g. minimum contract size & track record) to give innovators the best chance of success



Build Alignment between Innovation & Commercial Teams

- Successful innovation teams invest heavily in building relationships and obtaining buy-in from commercial teams
- Commercial teams can aid innovation by sponsoring problem statements and providing business insights to guide development

Case Study: Demand Driver maximizing the odds of adoption



Raffles Medical Group works with partners such as telehealth startup Doctor World in its digital transformation journey

It helps maximize the PoC’s chances of commercial adoption by:



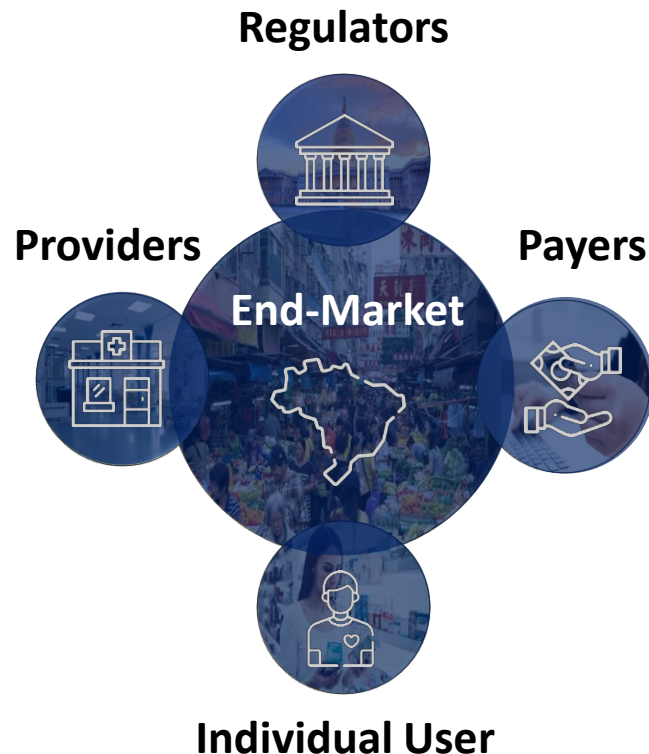
Devoting resources to co-develop solution with Doctor World, to ensure relevance across multiple domains



Encouraging other business groups in RMG to adopt the commercial solution

The need to navigate multi-stakeholder healthcare systems are key challenges to scaling

Innovators need to refine solutions to holistically meet the interests of multiple stakeholders in every target market



"The presence of many stakeholders makes it difficult to coordinate between them, and obtain the necessary buy-in"
- Prudential

Diversity of Asia is reflected across multiple facets

Purchasing Power

Language

Culture & Norms

Healthcare Systems

Capital and time to market required to customize solutions for local markets are prohibitive to scale

Leverage technology to scale



Innovators should build solutions on technology platforms suitable for the infrastructure across several key markets.

Accelerate Local Understanding with Consultants



Successful Innovators have found that leveraging consulting expertise is more cost-effective than building knowledge from ground-up.

Invest in Awareness Building and Education



Efforts to educate end-consumers can be useful to encourage adoption where the solution or technology is novel: e.g. Telehealth

Case Study: Investing in local knowledge and tailored solutions



Digital health startup Homage found that disparities between Singapore and regional markets mean that **a keen understanding of local contexts is needed**

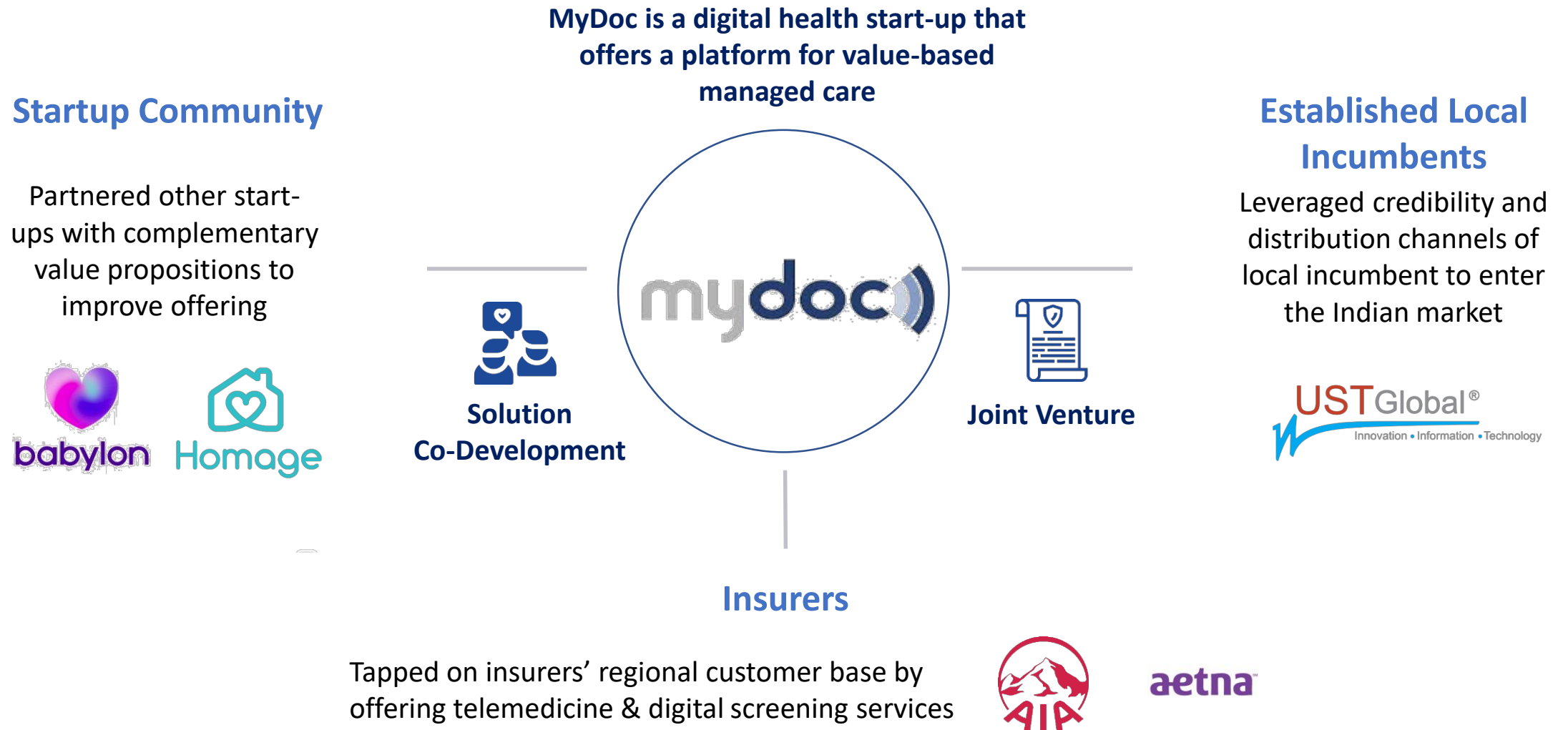


Homage conducted **high-level due diligence** of key APAC markets with help from consultants when choosing its second market



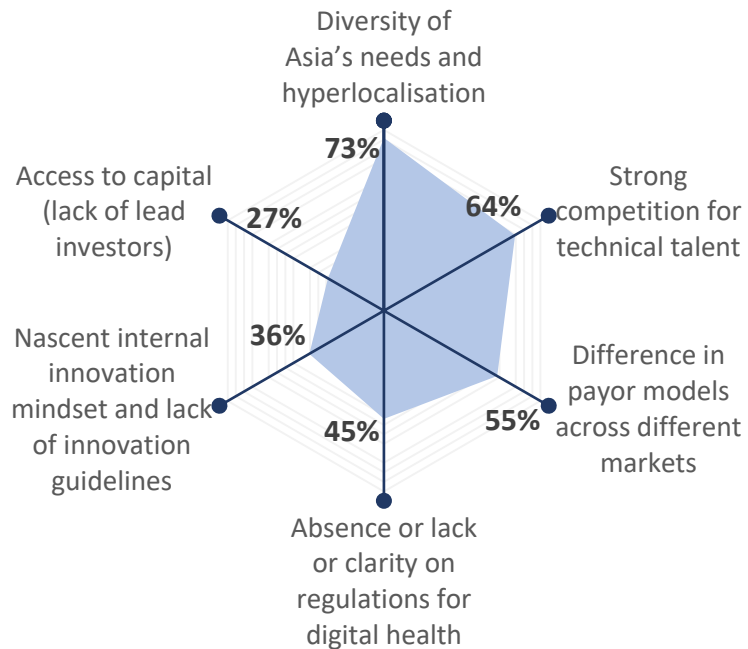
Awareness building campaigns aimed at **demonstrating the value of home care** have helped adoption

Overcoming the challenges to scale often requires an ecosystem approach – successful Innovators rely on a network of partners



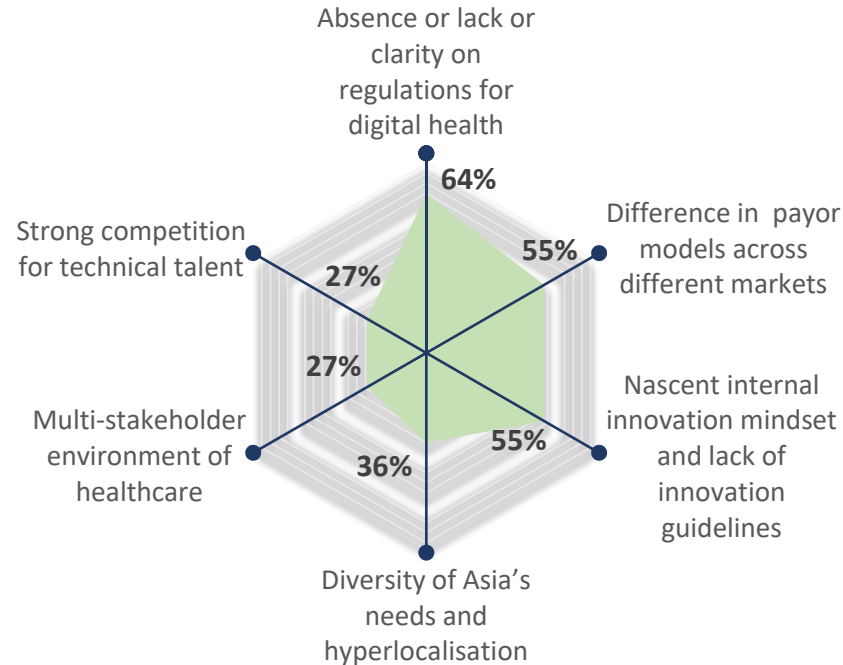
Innovation suppliers

Key bottlenecks to scale faced by innovation suppliers, as measured by the percentage of suppliers that listed the bottleneck as among their top three challenges



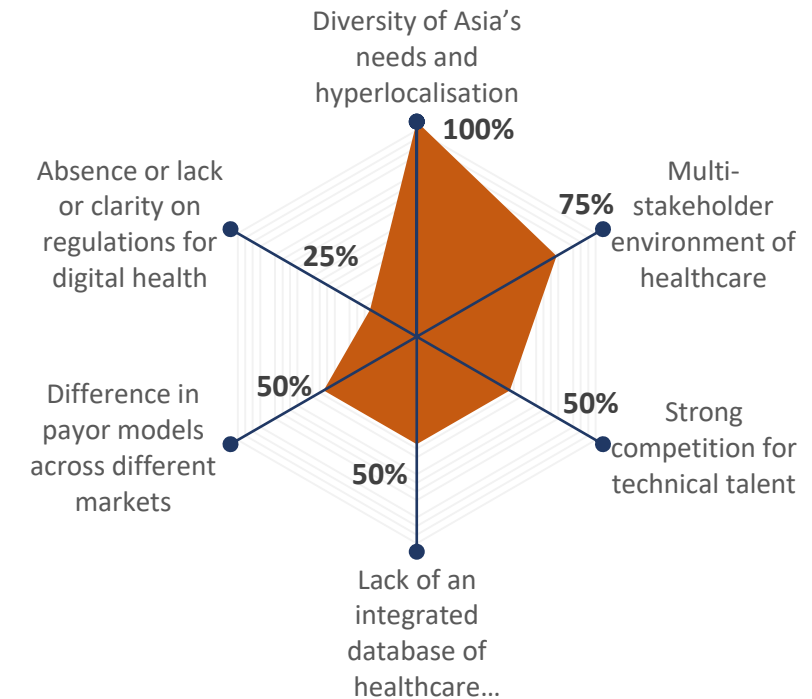
Demand drivers

Key bottlenecks to scale faced by demand drivers, as measured by the percentage of demand drivers that listed the bottleneck as among their top three challenges



Enablers

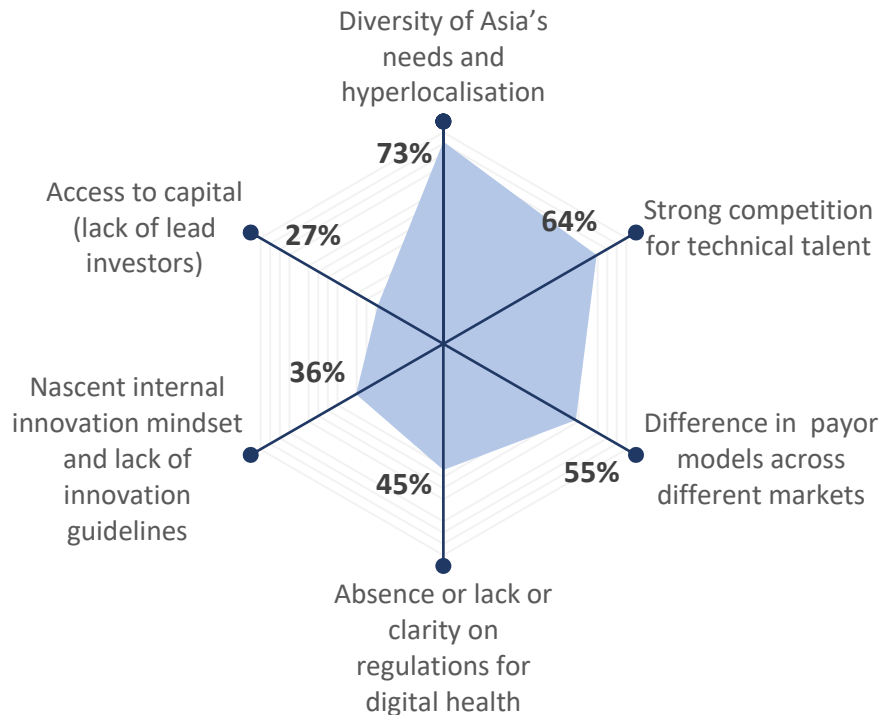
Key bottlenecks to scale viewed by enablers, as measured by the percentage of enablers that listed the bottleneck as among their top three challenges



Innovators consider diversity of needs and strong competition for talent as the two most critical challenges to scaling in the region

Innovation suppliers

Key bottlenecks to scale faced by innovation suppliers, as measured by the percentage of suppliers that listed the bottleneck as among their top three challenges



Diversity of health systems and customer profiles

Strong needs identification and localisation in each market is required, increasing time-to-market and influencing go-to-market strategies

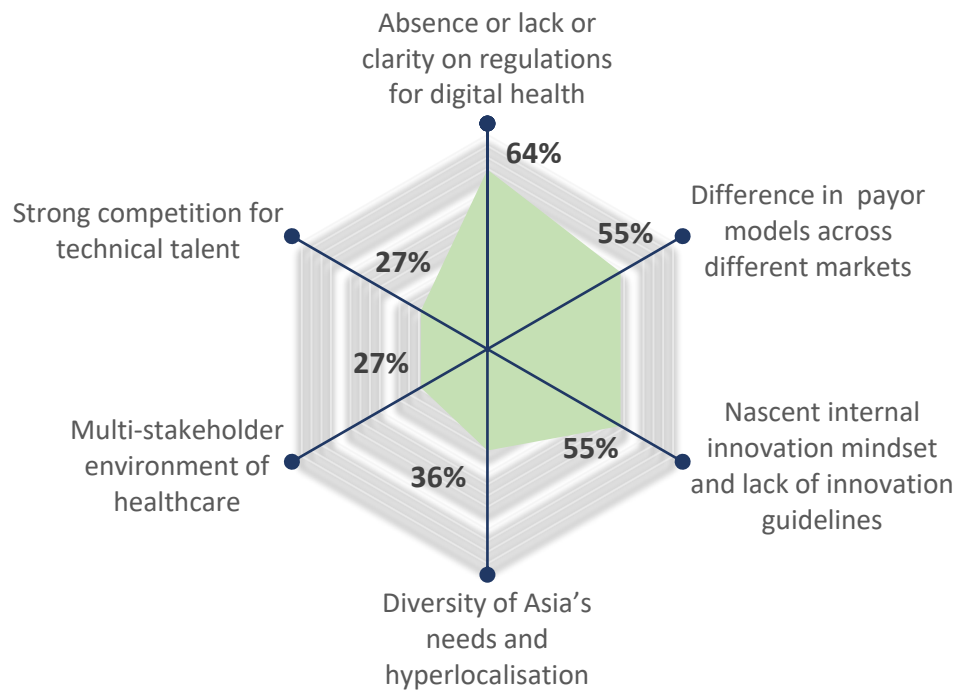
Strong competition for the right technical and managerial talent

Limited talent supply in Singapore has led to high wage costs and attrition, driving some innovators to hire remote technical talent in low cost markets, such as Vietnam

On the other hand, demand drivers consider ambiguous regulations and different local payor dynamics as the two most critical challenges

Demand drivers

Key bottlenecks to scale faced by demand drivers, as measured by the percentage of demand drivers that listed the bottleneck as among their top three challenges



Absence or evolving regulations in the digital health space

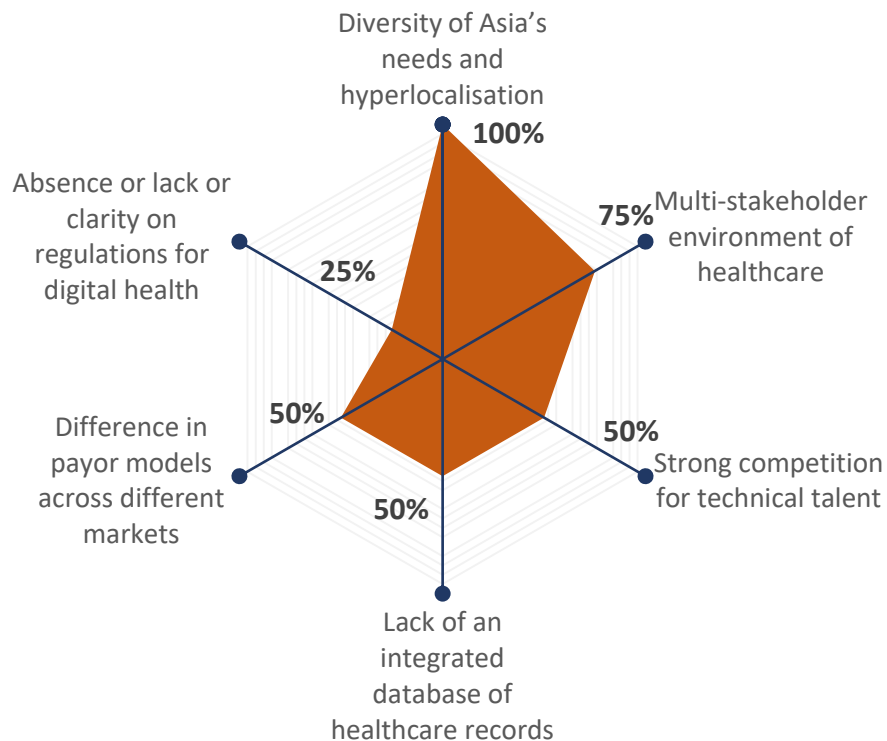
In general, demand drivers consider the risks of un-intentionally running afoul of evolving regulations as too high when scaling innovation in the region

Difference in Asian payor models

Digital health solutions may not be affordable in markets where out of pocket payor model dominates. In reimbursed markets, government schemes and private insurance are not yet set up to cover digital health innovations.

Enablers

Key bottlenecks to scale viewed by enablers, as measured by the percentage of enablers that listed the bottleneck as among their top three challenges



Diversity of healthcare systems and end consumer pain points

Enablers view innovations that address a common pain point across diverse healthcare systems in the region as ones that can scale the fastest

Need to navigate multi-stakeholder environment of healthcare

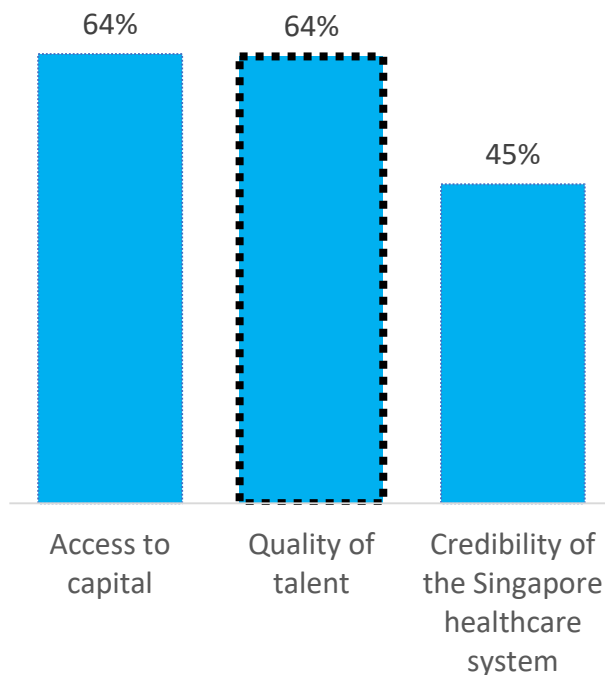
The inherent multi-stakeholder nature of healthcare systems slows down scaling as buy-in from various stakeholders in each target market is required

Advantages that operating in Singapore offers in scaling digital health innovations regionally

Innovation suppliers

Contrarian view:

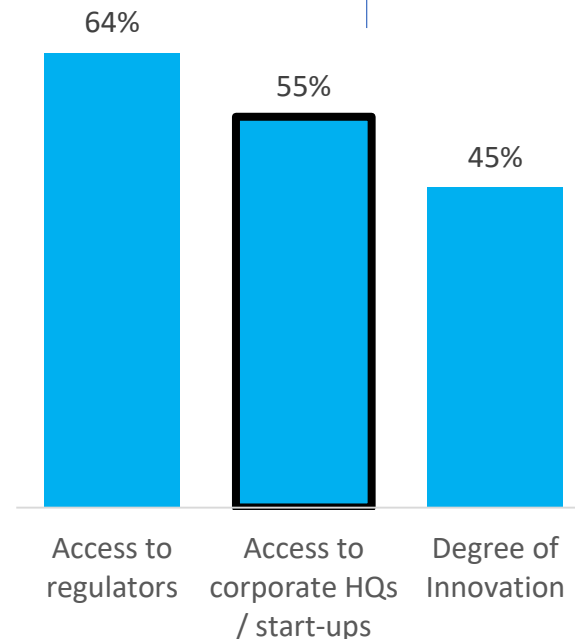
Although, SG healthcare system lends clinical credibility for innovators looking to scale, it doesn't provide commercial validation given the uniqueness of the Singapore health system compared to the rest of Asia



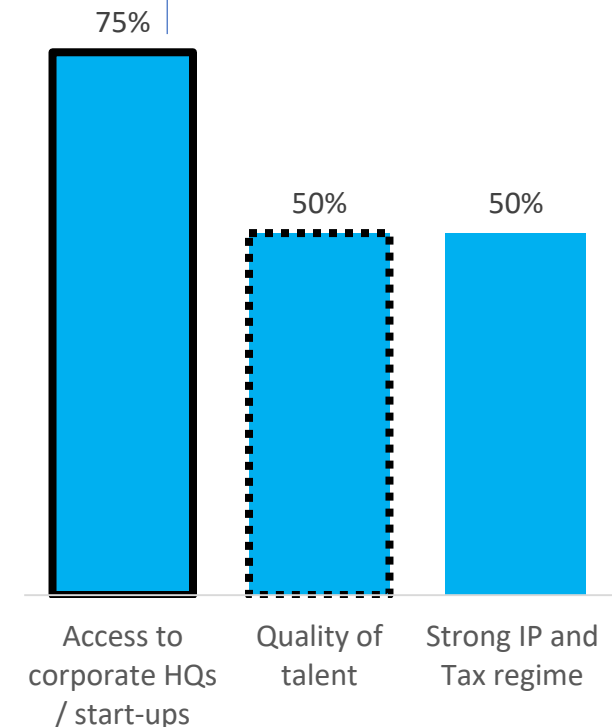
Demand drivers

Contrarian view:

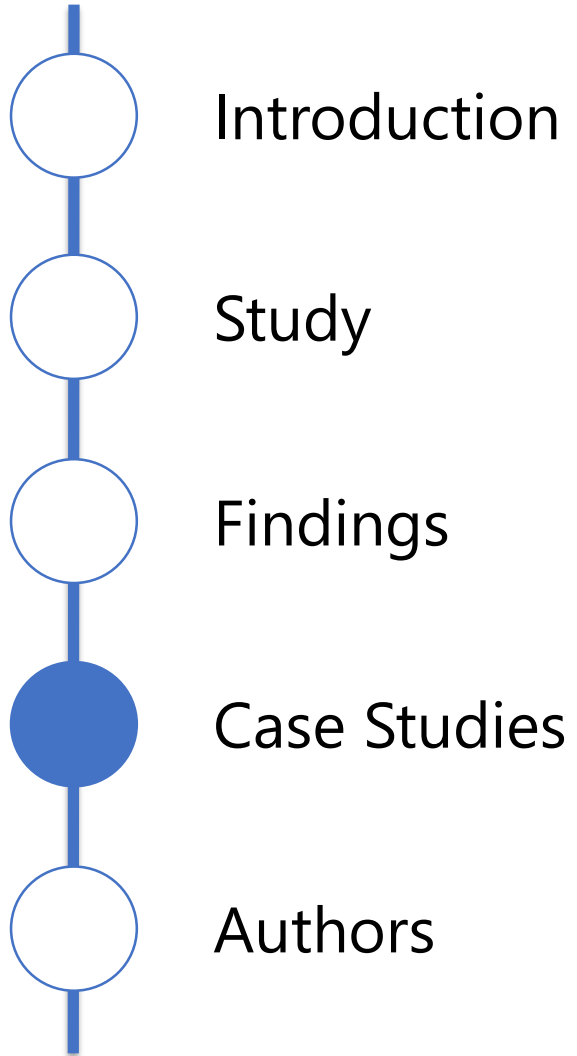
Although SG offers easy access to corporate RHQ, buying decisions lie with country corporate BUs or global HQ



Enablers



CASE STUDIES

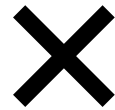




About Savonix

A Series A digital health startup, Savonix delivers the world's first mobile, evidence-based clinically valid cognitive and emotional assessment, providing ranked personalized health recommendations, for early screening and detection of dementia. While Savonix's test does not replace clinical diagnosis, healthcare providers can leverage its test results to improve treatment outcomes.

Based in Silicon Valley, Savonix has presence in China, Japan and Singapore.



Recognized challenges to scale rapidly in Asia

Long sales cycles (>1yr) with large scale industry and distribution channels, e.g. insurers, brokerage, and large employers with large captive audiences

Diversity of languages, consumer behaviour and adoptability in Asia slow down scale out to the markets

Regulations could potentially slow down market entry due to lack of precedence, regulatory grey area for solution



Savonix's approach to scale successfully regionally



Complement large-scale partnerships with short-term, small-scale local collaborations with both clinical and long term care companies involved in active ageing/cognitive health for the elderly



Targeted approach to identifying the right partners and key decision-makers/ influencers in the local market to speed up regionalization. Hired ACCESS Health to identify and position value proposition to right partners in China

Partnered with Lumen Lab to understand consumer insights and payer perspectives, co-invest and speed up localisation and network building



Regulatory opinion upfront in order to proactively remove hurdles along the way. Have convergent validity papers that show that the solution is at least as good as current market standard

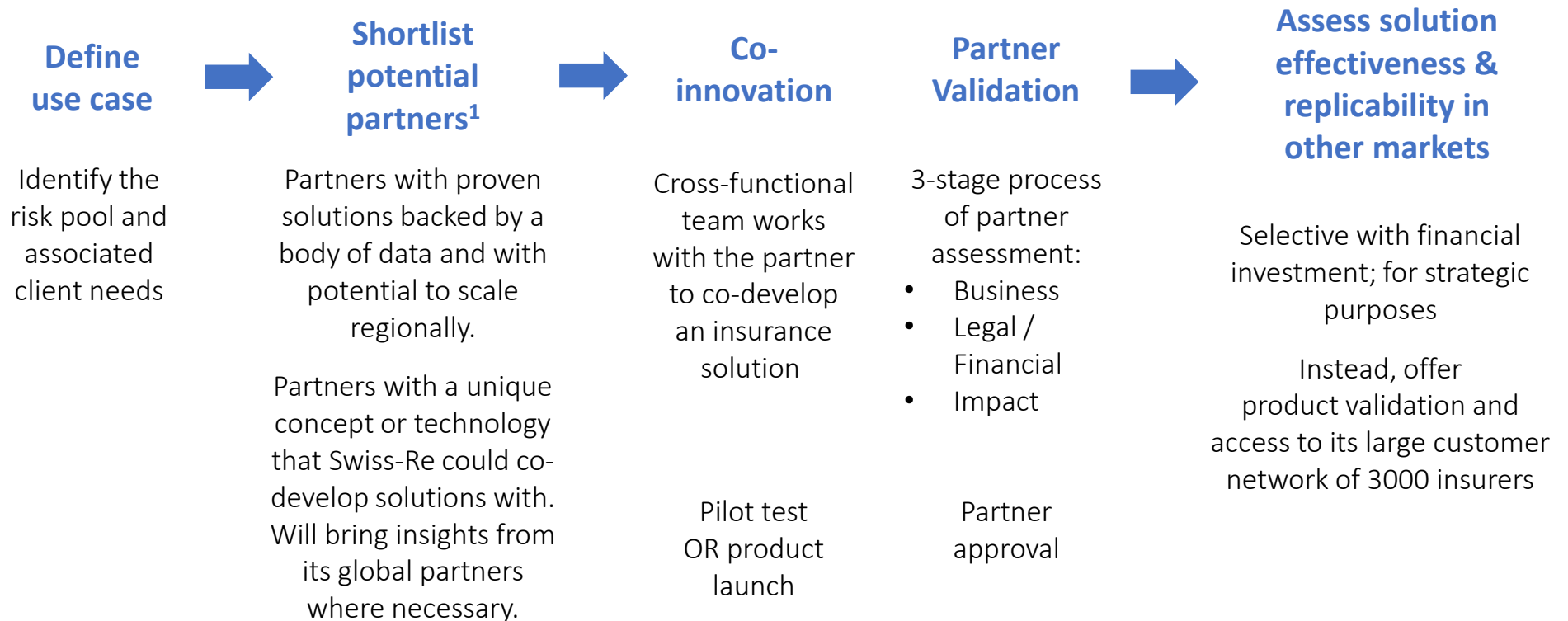


About Swiss Re

The Swiss Re Group is one of the world's leading providers of reinsurance, insurance and other forms of insurance-based risk transfer, working to make the world more resilient. It anticipates and manages risk – from natural catastrophes to climate change, from ageing populations to cyber crime. The aim of the Swiss Re Group is to enable society to thrive and progress, creating new opportunities and solutions for its clients.



Swiss Re's approach to scaling innovation: Co-develop solutions with innovative partners, including clients (direct insurers), tech, and other healthcare stakeholders



¹For startups, these tend to be Series B or later



About Parkway Pantai

Part of IHH Healthcare, Parkway Pantai runs more than 80 private hospitals in Singapore, Malaysia, India, Hong Kong, China, etc. Headquartered in Singapore, its Innovation Office functions as its corporate venture arm to adopt innovative technologies, run Innovation Challenge programs, and invest strategically in healthcare startups with potential to grow and adopt innovation into the Integrated Healthcare System that Parkway Pantai runs.



Recognized challenges to scale innovations rapidly in Asia

Identifying common pain points across multiple markets that we are operating in

Different purchasing powers across Asian markets, so solutions that work in one market cannot easily scale to another

Internal innovation mindset – initial inertia due to obtaining the buy in from the business owners



Parkway Pantai's approach to scaling innovations regionally

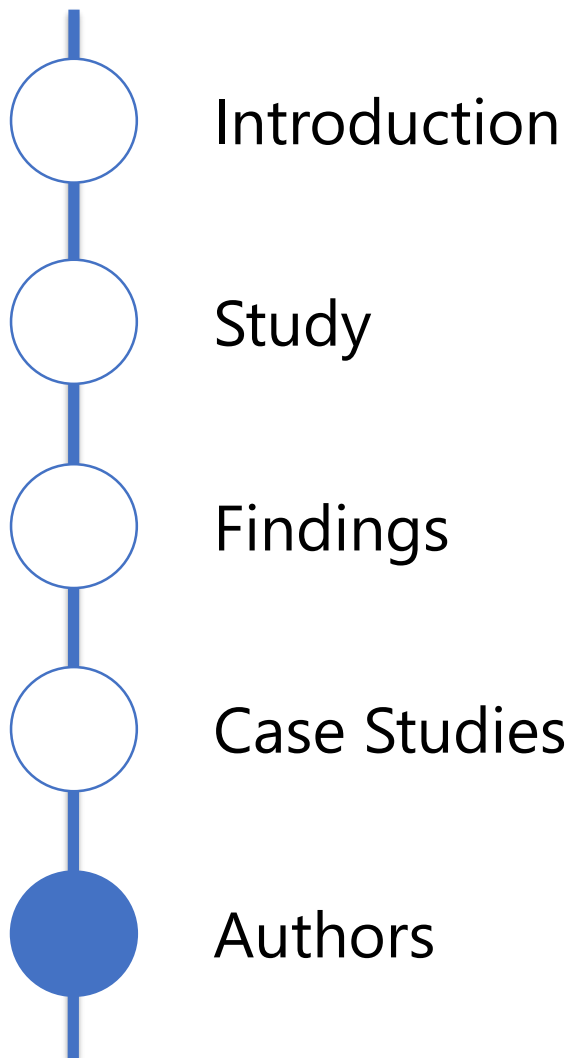
Prioritizing investment in IT infrastructure to integrate data across faculties and countries to gather data to identify areas for digital health innovation to facilitate better clinical decision making, end patient experience and operational models

Partner with startups instead of big tech company where big tech company's solution cannot be adopted in emerging markets. Startups are more flexible and can offer solutions affordable in lower-income countries

Actively fostering an innovation mindset through hosting internal and external innovation challenges.

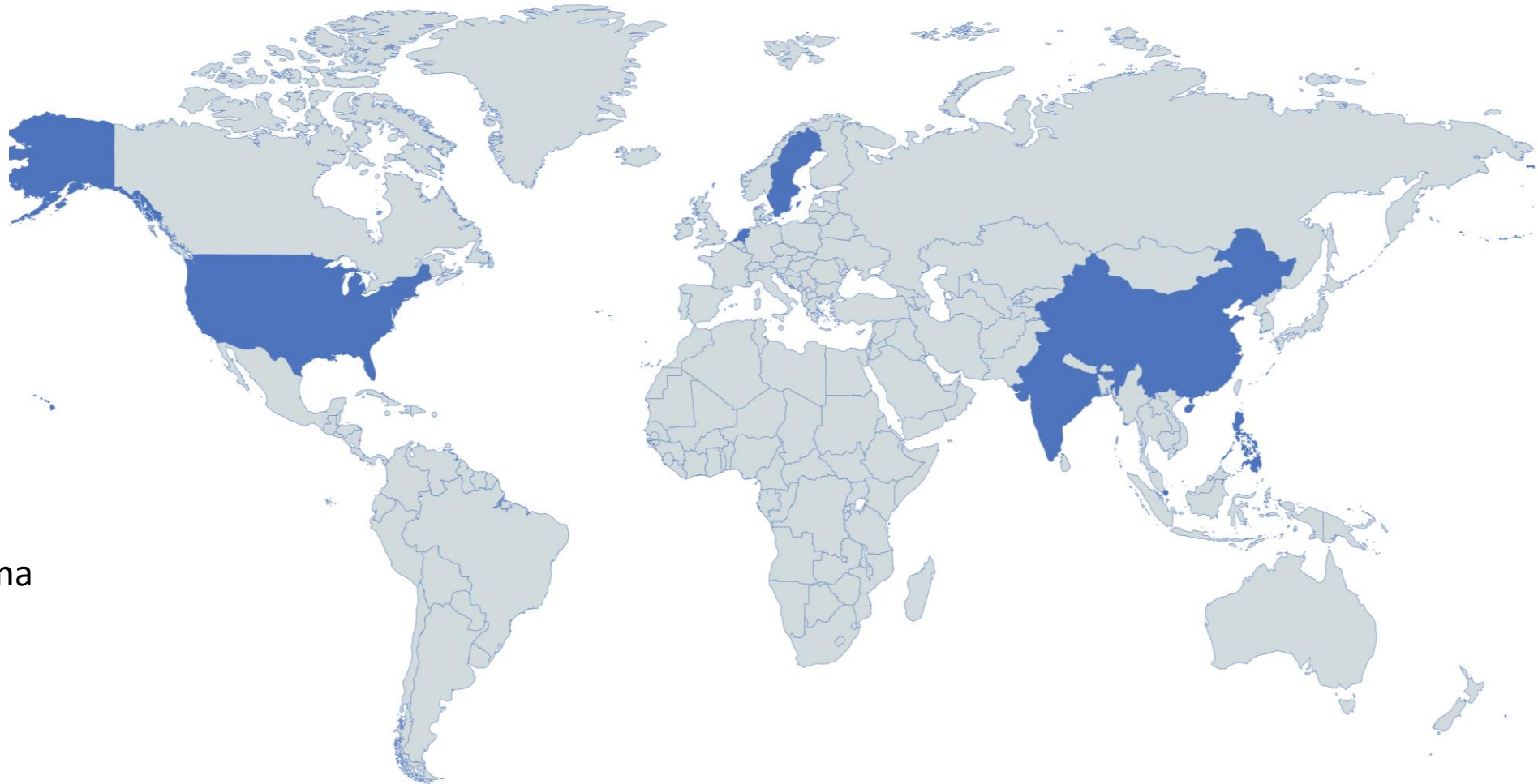
Getting business unit's prior commitment to POC leading to faster adoption. For. E.g. partnership with AI technology vendor took half of year from initial engagement to adoption due to BU prior buy in

AUTHORS



Project Team

ACCESS Health International is a global non-profit think tank dedicated to improving healthcare access



USA
India
Mainland China
Hong Kong
Philippines
Singapore
Netherlands

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Our Vision

"All people, no matter where they live, have a right to access high quality, affordable healthcare and to lead healthy and productive lives"

Our work focuses on three areas:

Knowledge: Health systems research and analysis across Asia Pacific

Engagement: Facilitating knowledge sharing, collaboration and partnerships

Implementation support: working with partners to implement health systems innovations

Service innovation

Health Financing

Digital Health

PPPs

Our Vision

The Singapore Economic Development Board (EDB), a government agency under the Ministry of Trade and Industry, is responsible for strategies that enhance Singapore's position as a global centre for business, innovation, and talent. Our mission is to create sustainable economic growth, with vibrant business and good job opportunities for Singapore.





Tript Bhatia

Director Startup Alliance
Access Health International

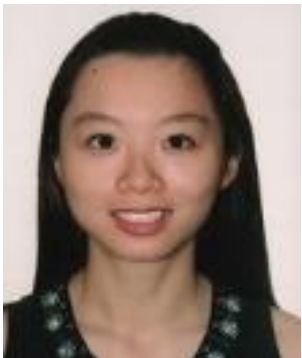
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