



Impact Measurement Case Study

GE HEALTHCARE



GE Healthcare



Target Beneficiaries:
Rural hospital patients

LOCATION:
Myanmar

This publication is part of a series of case studies on BCTA Impact Measurement Services (BIMS), a Business Call to Action (BCTA) initiative that demonstrates how inclusive businesses can measure and apply impact data.

BIMS provides 21 participating BCTA member companies with technical expertise and technology to design and implement survey-based data collection for assessing their social and environmental as well as operational performance. BIMS is implemented by BCTA with support from implementing providers Arthify and Echo Mobile.

Sector: Health

Business model: GE Sustainable Health Solutions (SHS) designs healthcare technologies for low resource markets in Asia and Africa to create robust yet affordable products that save lives. Vscan Access is SHS' innovative ultrasound device, designed for primary health workers in low resource settings to prevent maternal and newborn deaths. It has been distributed through the Ministry of Health and Sports (MoHS) in Myanmar and Thailand.

THE OBJECTIVE

Vscan Access is in use by doctors at Rural Station Hospitals in Myanmar, where SHS has sought to gather doctor and patient feedback and data on product usage and results, as well as track changes in doctor and patient behavior and resulting health outcomes. The data is considered critical to demonstrate to the MoHS the technology's impact and alignment with the SDGs, and thus sustain the programme.

HOW IT WORKS

1 ASSESSING READINESS



While SHS is in the progressive stage, the Myanmar programme is still in the early stage; operational for less than a year. The team and its government and distribution partners have high technical capacity and motivation for data collection, but there is only one full-time GE staff member in-country dedicated to the programme, and rural doctors are spread across the country. These limitations on access and human resources indicate medium readiness of measuring impact.

Compared to seeking ultrasound and antenatal care (ANC) further away from their homes at regional hospitals, patients saved an average of **1.6** hours and **8,581** Kyat (approximately US \$6.50).

Amongst patients, **99%** reported increased willingness to seek care, yet only **12%** reported having a better understanding of the importance of regular ANC visits.

All Station Medical Officers reported being somewhat to very motivated as a result of their access to Vscan Access training and technology, and having increased confidence.

SHS Myanmar developed two surveys: (1) A doctor survey, to be completed monthly by the Station Medical Officers (SMOs) to report on their motivations and clinical confidence, as well as the number of obstetric (OB) and emergency patients seen and treated with Vscan Access, issues detected, and incidences of maternal or infant mortality, (2) A brief patient survey, to be conducted by the SMOs with one patient every other day, assessing the extent to which Vscan technology impacted their attitudes towards seeking care.

2 PLANNING AND DESIGN



The SHS Myanmar team's key impact and outcome metrics are:

- 1 doctor satisfaction, competency, and confidence with Vscan Access;
- 2 patient access to Vscan access;
- 3 complications detected with Vscan Access; and,
- 4 patient antenatal care attitudes and behaviors.

4 ANALYSING DATA AND REPORTING

3 MONITORING IMPACT

RESULTS

SHS Myanmar sought data to demonstrate its impact to key stakeholders, notably the Myanmar MoHS. While the MoHS also commissioned a third-party evaluation of the technology product and programme, SHS sought to establish more regular feedback mechanisms and data flows for impact monitoring. Since its inception SHS has also worked closely with the UN to align its programmes and impact with the SDGs.



About GE Sustainable Healthcare Solutions

GE Healthcare created SHS in 2015 to develop robust, high-value, low-cost healthcare solutions for India, South Asia, Africa, and Southeast Asia. The inclusive business¹ was conceived to improve access to quality and affordable care by designing and adapting innovative technology to the realities of these emerging markets. GE Healthcare's existing technologies, designed for developed markets, had struggled in these new contexts, where public, financial, infrastructural, and human health resources are limited. Applying a human-centered design approach and working closely on the ground with NGOs, donors, health-care providers, governments, start-ups, and other stakeholders, SHS is able to apply GE's technical expertise and experience to rapidly create and test new products that maximize sustainability and usability for providers and effectiveness for customers.

In Myanmar and Thailand, SHS has piloted its Vscan Access ultrasound technology, designed for front-line primary health workers to prevent maternal and newborn deaths. The devices have been dis-

tributed to dozens of rural station hospitals across Myanmar in partnership with the Ministry of Health and Sports (MoHS) and local distribution companies. The technology distribution is just one part of a more comprehensive national newborn and maternal health programme designed by SHS and its partners to drive and monitor progress towards better rural health outcomes in Myanmar. The programme implements comprehensive antenatal care (ANC) training for rural doctors known as Station Medical Officers (SMOs), oversees a national-level reporting mechanisms to ensure accountability, and facilitates peer-to-peer engagement and learning to provide support and reduce SMO isolation.

SHS seeks not only to drive adoption of its technology to detect maternal health problems and save time and money for rural women, but to more holistically improve knowledge, attitudes, and practices around ANC amongst both patients and SMOs. With these goals in mind, GE SHS engaged BIMS to establish preliminary quantitative evidence of these impacts.

¹ Inclusive businesses are commercially viable business ventures that engage people living at the base of the economic pyramid – people with less than US\$10 per day in 2015 purchasing power parity – as consumers, producers, suppliers, distributors of goods and services, and employees.

Step 1: Assessing readiness

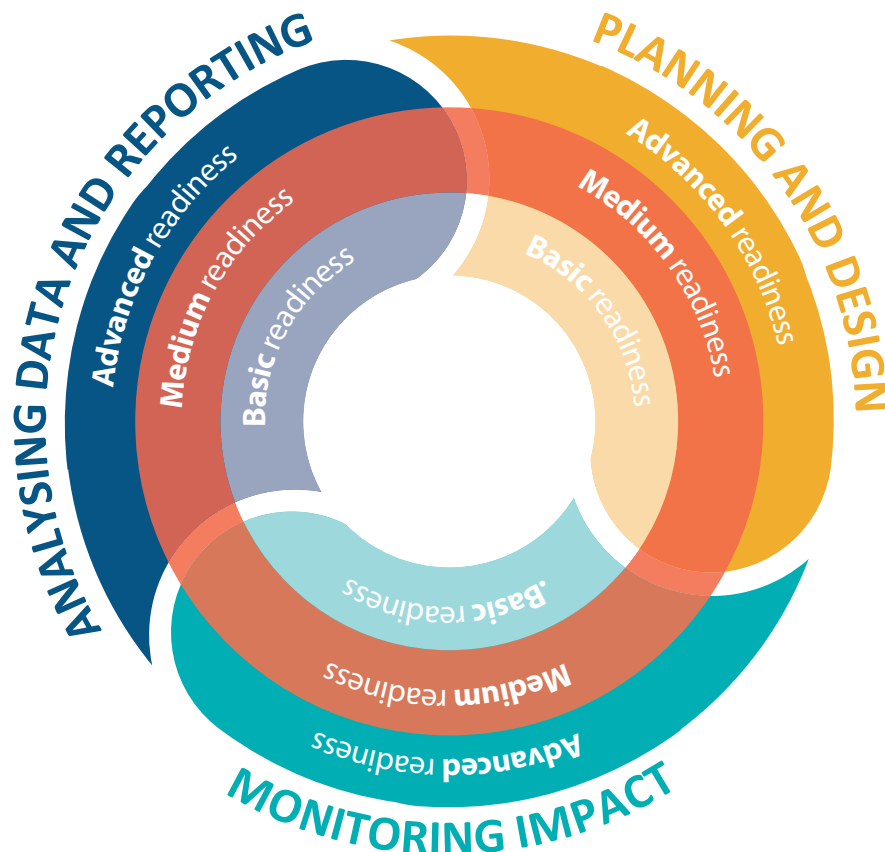
Effective impact measurement² begins with determining the reason for measuring impact. A wide variety of tools are available for businesses to measure, manage and report on their social impacts. Approaches range from those generating quick feedback, to those requiring longer timeframes for showing systemic impact. It is important for companies to choose the right approach that meets their business needs given the available resources.

Assessing a company’s readiness for impact measurement is a critical first step in determining what social impact data to collect, how to collect it, and how to use it. In doing so, BCTA considers its maturity and capacity, which are determined based on the company’s clarity of purpose, data-driven culture and resources available for monitoring and data collection.

While SHS is in the progressive stage, the Myanmar Vscan Access programme is still in the **early stage**, having been operational for less than a year. The Myanmar team sought to integrate data collection

from the beginning, working with the MoHS to require rural SMOs to maintain daily paper-based Scan Logs that track each and every application of the Vscan technology and the resulting diagnosis or action. The scan logs are then photographed monthly and submitted to SHS via doctor Facebook and WhatsApp groups.

This existing use of mobile technology for data collection indicated a high technical capacity for expanding data collection for impact measurement via mobile tools, and a means of overcoming the geographic spread and remote locations of SMOs. However, SHS’ technical capacity and resources are offset slightly by a shortage in full-time staff to manage data collection and the extreme remoteness of the SMOs from whom impact data must be collected. Many require days of travel to reach, and all are coordinated by one staff person in Yangon. These limitations on access and human resources, combined with high technical capacity and resources, combine for a **medium level of readiness** for impact measurement (see the figure below).



² In this case study, ‘impact measurement’ refers to the measurement of inclusive businesses’ social, economic and environmental performance.

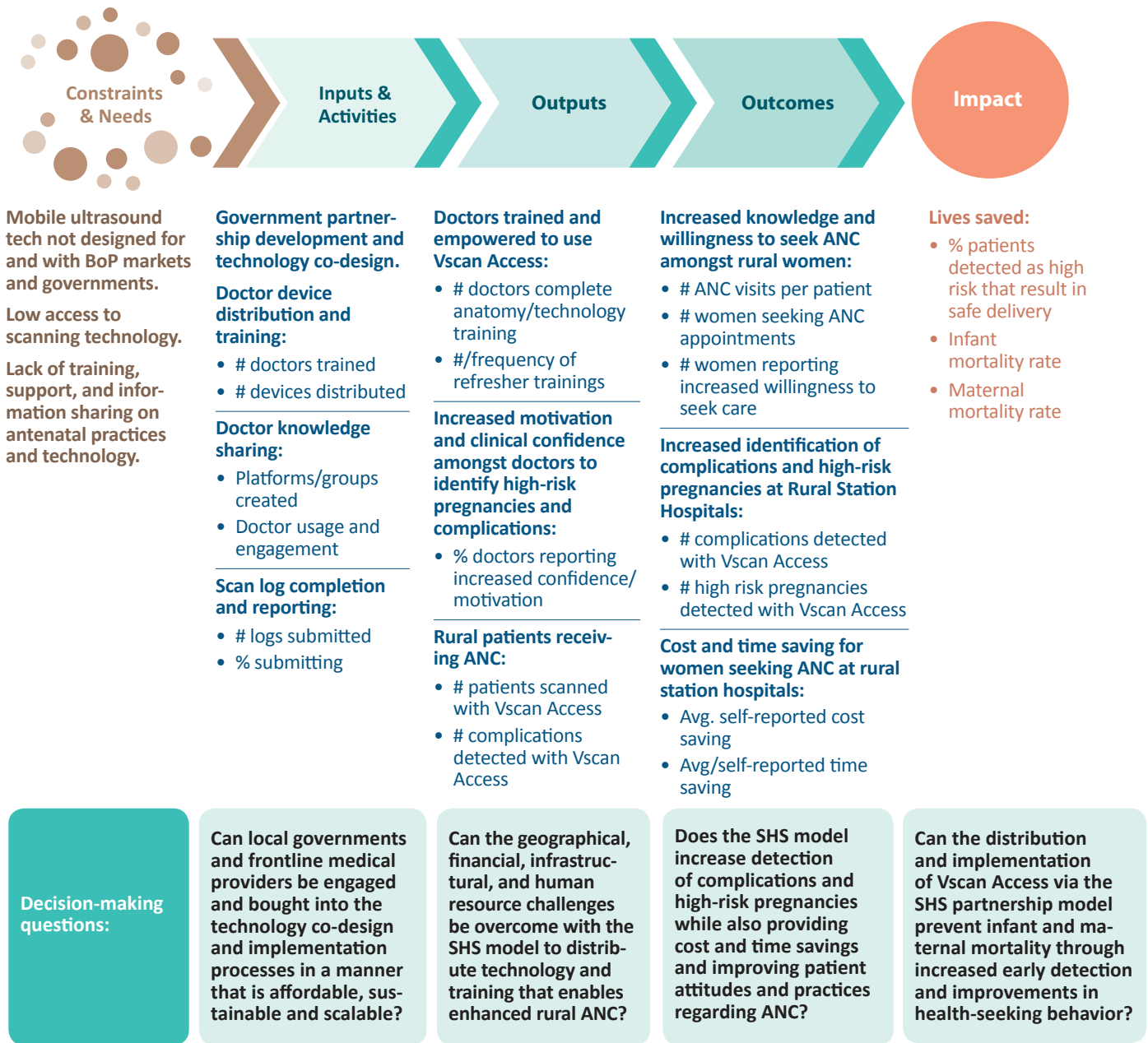
Step 2: Planning & design

The planning step involves developing an Impact Value Chain³ that links business goals, strategies and operations to outcomes and impact related to the Sustainable Development Goals (SDGs).⁴ The Impact Value Chain is the basis for developing social impact indicators that address the needs identified in the previous step.

Impact Value Chains guide companies in determining what to measure and where to collect data by mapping business goals, strategies and operations against outcomes related to the SDGs.

An abridged version of the Impact Value Chain, with a limited number of social impact metrics, is presented here:

GE Sustainable Healthcare Solutions's Impact Value Chain



³ The Impact Value Chain integrates multiple approaches such as theory of change, results chain, logframes and business value chains.

⁴ Adopted in September 2015 by all United Nations member states, the SDGs are a set of [17 global goals](#) and 169 targets related to key development issues facing society today. Countries aim to achieve them by 2030.

Step 3: Monitoring impact

To monitor social impact, BIMS recommends that companies continuously collect data on business operations and social performance. Businesses can access data from individuals, or from secondary sources like invoices, inventories, customer registrations, market research reports, social media, surveys, and polls.

Identifying sources of data is critical for developing data collection plans using the Impact Value Chain. Many companies have already collected data that can be used for social impact measurement, so BIMS suggests that they first determine if they can analyse existing data. If additional data is needed, it is important for companies to consider how different sources and data sets can be integrated or merged with existing resources to improve the value of data collection by enabling more efficient analysis and knowledge sharing.

For SHS Myanmar, the core need was to build on the scan log data, which measures the number and frequency of patient visits and any resulting complications that are detected. Specifically, SHS sought to better understand the impact of the technology on broader knowledge, attitudes, and practices surrounding ANC. The Myanmar team developed two different data collection tools for deployment on the Open Data Kit (ODK) Collect application via the Echo Mobile platform:

1. A doctor survey, to be completed by SMOs at the end of each month on their own smartphones. The survey questions SMOs about the extent and causes of any changes in their motivations and clinical confidence, as well as the number of patients visiting Obstetrics and Outpatient departments over the month, the number treated with Vscan Access, how many were emergency scans, the breakdown of specific complications or ailments that were detected via Vscan Access, and any incidences of maternal or infant mortality.
2. A very brief patient survey, to be conducted by SMOs, which requires patient consent and seeks to assess the extent to which having access to and awareness of the technology impacted their attitudes towards seeking care, and to what extent having received care would impact their behavior going forward.

Survey implementation

The substantial geographic spread and remote locations of rural station hospitals – travel to each of which can take two days – prevented SHS and BIMS from conducting field training at the hospitals themselves, and SHS staff from conducting in-person data collection. Instead, the teams integrated training into an existing technical training held in the capital Nay Pyi Taw, attended by 18 SMOs actively using the Vscan Access technology. Eleven SMOs already had smartphones and thus could be trained to use the ODK Collect application from their own phones. SMOs were also briefed on the content and methodology for both the doctor and patient surveys and were then able to practice conducting both.

The doctor survey was designed for SMOs to fill out independently, allowing them to report their levels of motivation and confidence and to input the month's aggregate patient data.

Both surveys took approximately five minutes to complete on average. SHS asked that upon returning to their hospitals, each SMO conduct one patient survey at least every other day (about 14 per month) in order to collect a significant sample of the approximately 612 patients who visited the hospitals every month. Due to the small sample of SMOs, all were requested to complete the doctor survey once at the end of every month.

	Doctor Survey	Patient Survey
Surveyor	SMO	SMO
Respondent	SMO	Patients
Monthly Population	11	612
Monthly Sample	11	252 (14 per SMO)



Step 4: Analysing data and reporting

While the purpose and usability of social impact data varies for each inclusive business, social impact measurement outputs can be used to answer one or more of the following questions:

1. Who is being impacted?
2. How are they being impacted?
3. What are the drivers contributing to or limiting this impact?
4. How can this impact be scaled up and linked to the SDGs?

Answers to these questions will provide a clear map of to what extent the initiative is achieving its intended social impact in the communities where it is present, thus establishing an important baseline from which to adjust and improve services to increase impact in the future.

Who is being impacted?

The primary beneficiaries of GE SHS' Vscan Access are patients who live in rural areas of Myanmar. In general, those patients who live in the countryside lack access to adequate healthcare and are subsistent farmers whose incomes tend to be irregular depending on the weather and crop yields.

GE SHS also provides comprehensive training on antenatal care to the Station Medical Officers at Rural Station Hospitals.

How are they being impacted?

The GE SHS Myanmar programme is designed to increase access to critical ANC by providing technology and training that reduces the costs required to seek care and increases the quality of care at the local level, while improving ANC attitudes and practices. Indeed, compared to seeking ultrasounds or ANC further away from their homes at regional hospitals, patients saved an average of 1.6 hours and 8,581 Kyat (approximately US\$6.50). SHS continues to establish its baseline numbers and track changes over time via both the BIMS surveys and the Scan Logs to assess whether these reduced barriers to access will show increases in patients seeking ANC at the rural station hospitals and resulting long term reductions in infant and maternal mortality.

What are the drivers contributing to or limiting this impact?

Amongst patients, 99 percent reported an increased willingness to seek care with most doing so to ensure a safe delivery of their baby. Yet only 12 percent reported having a better understanding of the importance of regular ANC visits following their treatment. Among Station Medical Officers, all reported being somewhat to very motivated as a result of their access to Vscan Access training and technology, and all reported increased confidence in carrying out these services.

How can this impact be scaled up and linked to SDGs?

BIMS supports inclusive businesses in adopting impact measurement practices that help them to plan, monitor and deliver social impact, and contribute to achieving the SDGs. As part of the Impact Value Chain, GE SHS identified the following SDGs that are aligned with the business's intended impact:

SDG 1 ZERO POVERTY

By reducing the costs required to receive quality care, SHS Myanmar has contributed to clear savings for pregnant women, reducing the impact that pregnancy and related medical issues can have on household poverty. By improving attitudes and practices regarding ANC, the programme intends to increase the number of women seeking regular appointments and scans, which will enable early detection and treatment of complications, reducing the costs required for emergency care.

SDG 3 GOOD HEALTH AND WELL-BEING

SHS Myanmar continues to collect baseline data on antenatal complications and health outcomes, notably infant and maternal mortality, which it expects to be reduced over time due to the impact of Vscan Access technology on the capabilities for detection of antenatal complications, and the broader changes in ANC attitudes and practices amongst both SMOs and patients.



Lessons learned from SHS Myanmar's Vscan Access technology and impact measurement training

The inefficiencies of impact measurement across geographically remote and dispersed areas can be overcome when data collection is carried out by existing on-the-ground partners who have both the necessary technical capacity and regular contact with beneficiaries.

SHS Myanmar's customer is the MoHS, but its key beneficiaries are rural women spread across the country. Like many BIMS companies, SHS has limited direct access to their beneficiaries due to them living in dispersed and remote geographic locations. Such access limitations can present significant challenges to in-person data collection. However, because the SHS works along the full value chain of its technologies, the company was able to overcome these challenges by identifying existing partner intermediaries (SMOs) with whom it had existing touch-points (training) and use these existing processes to integrate training on data collection. It could then rely on the partner SMOs to leverage mobile collection and aggregation tools to collect and report data as part of their day-to-day work, without SHS incurring new costs to develop new data collection personnel and processes. SHS's existing partnership with the MoHS, as well as formal sensitization efforts conducted during formal meetings and presentations to MoHS leadership by BIMS and SHS staff, were key

to obtaining the formal support required to successfully conduct SMO training and data collection.

The health impacts of technology and training designed specifically for BoP contexts takes considerable time to detect, which calls for a sustained data collection effort by GE's SHS Myanmar.

While improvements in the detection of complications and high-risk pregnancies are relatively easy for SHS Myanmar to track and monitor in real time through the Vscan Scan Logs and BIMS doctor surveys, detectable impacts on infant and maternal mortality will take longer to realize. In this case, SHS Myanmar expects to continue to track outcomes over time. In the meantime however, the secondary outcomes of GE technology and training, notably patient ANC attitudes and practices, proved difficult to capture due to time constraints faced by the SMOs. SMOs are often the only doctor for miles and work weeks on end, with ANC representing but one of many areas of focus and Vscan Access one of many tools. To ensure the data collection to become sustainable, SHS may consider the option of expanding data collection responsibility to other medical staff.

Business Call to Action (BCTA) aims to accelerate progress towards the Sustainable Development Goals (SDGs) by challenging companies to develop inclusive business models that engage people at the base of the economic pyramid – people with less than US\$10 per day in 2015 purchasing power parity – as consumers, producers, suppliers, distributors of goods and services, and employees.

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Ministry of Foreign Affairs of the Netherlands



MINISTRY FOR FOREIGN AFFAIRS OF FINLAND



Schweizerische Eidgenossenschaft
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Contact the Business Call to Action

E: secretariat@businesscalltoaction.org

www.BusinessCalltoAction.org



@BCTAInitiative



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Written by: Boris Maguire
Reviewed by Tomohiro Nagasaki, Yunzhong Cheng
(Business Call to Action)