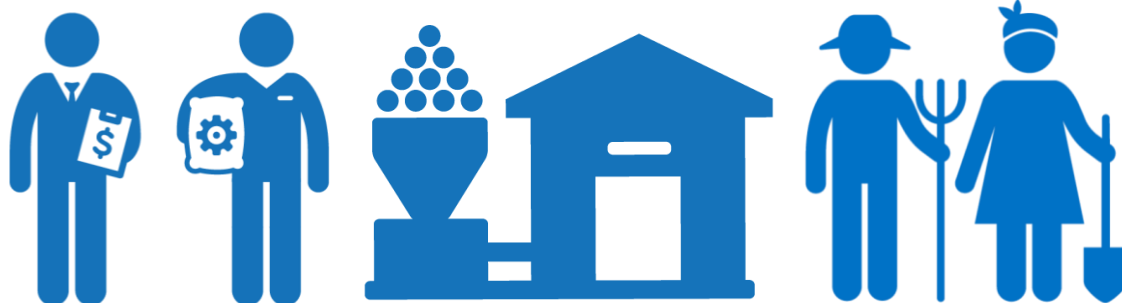


SDM: Case Report SMS Vietnam

Service Delivery Model assessment: Short version
August 2018

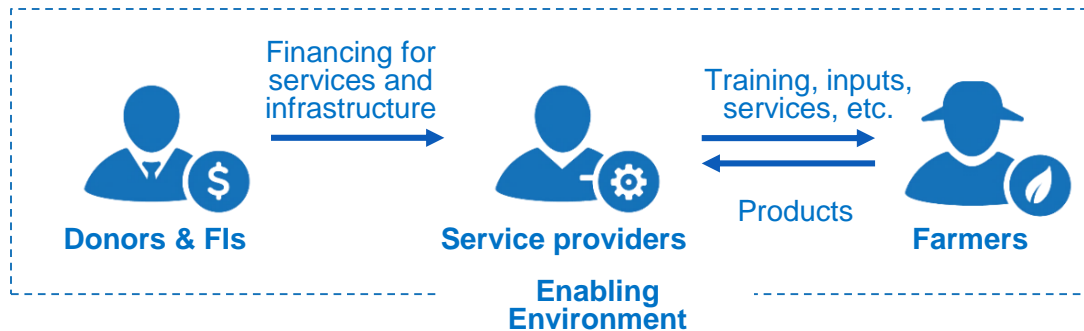
Location: Vietnam
Commodity: Coffee
Services: Farmer training & compliance, farmer organization support, soil testing, agro-inputs & safe application, renovation & planting material, precision irrigation



What are SDMs and why are we interested in analyzing them?

Service Delivery Models (SDMs) are supply chain structures which provide services such as training, access to inputs and finance to farmers. The aim is to improve farmers' performance, and ultimately their profitability and livelihoods.

A SDM consists of service providers, often supported by donors and financial institutions (FIs), and farmers receiving the services. All are set within a specific enabling environment.



By analyzing SDMs, we aim to support **efficient, cost-effective and economically sustainable SDMs at scale** through:

Key drivers for success of SDMs benchmarking



Innovation opportunities to support



Cross-sector learning, learning community



Convening at sector and national level



Analyzing SDMs brings a range of benefits



Farmers and farmer organizations

- **Enhanced services**, which lead to improved farmer income and resilience, through higher productivity and product quality
- **Improved SDM outcomes**, which lead to an improved social and environmental environment



SDM operator

- Better understanding of your **business case**
- Insights to **improve service delivery**
- Insights to develop a **cost-effective SDM**
- Identification of opportunities for **innovation** and **access to finance**
- **Comparison** with other public and private SDM operators operating across sectors/geographies
- Ability to communicate **stories of impact and success** at farmer level



Investors/FIs

- **Common language** to make better informed investment decisions
- Insights to achieve optimal **impact, efficiency and sustainability** with investments and partnerships in SDMs

The SMS Vietnam SDM and objectives

General SDM information:

Location:	Vietnam
Timing and analysis scope:	2018-2025
Scale (start of analysis):	4,739 farmers
Scale (end of analysis):	6,000 farmers
Funding:	SMS, co-funded by ACOM Vietnam and IDH
SDM Archetype*:	Specialized service provider



- Atlantic Commodities Vietnam Ltd. (ACOM) was established in 2002 as a subsidiary of ECOM, one of the world's top three merchants of coffee.
- ECOM establishes Sustainable Management Services (SMS) agronomy divisions within its local operating companies (including ACOM) to provide training, certification and other value-adding services to farmers linked to the supply chain.
- SMS Vietnam runs its farmer training and development programs from the Farmer Training Center in Bao Loc, Lam Dong province

SDM objectives:

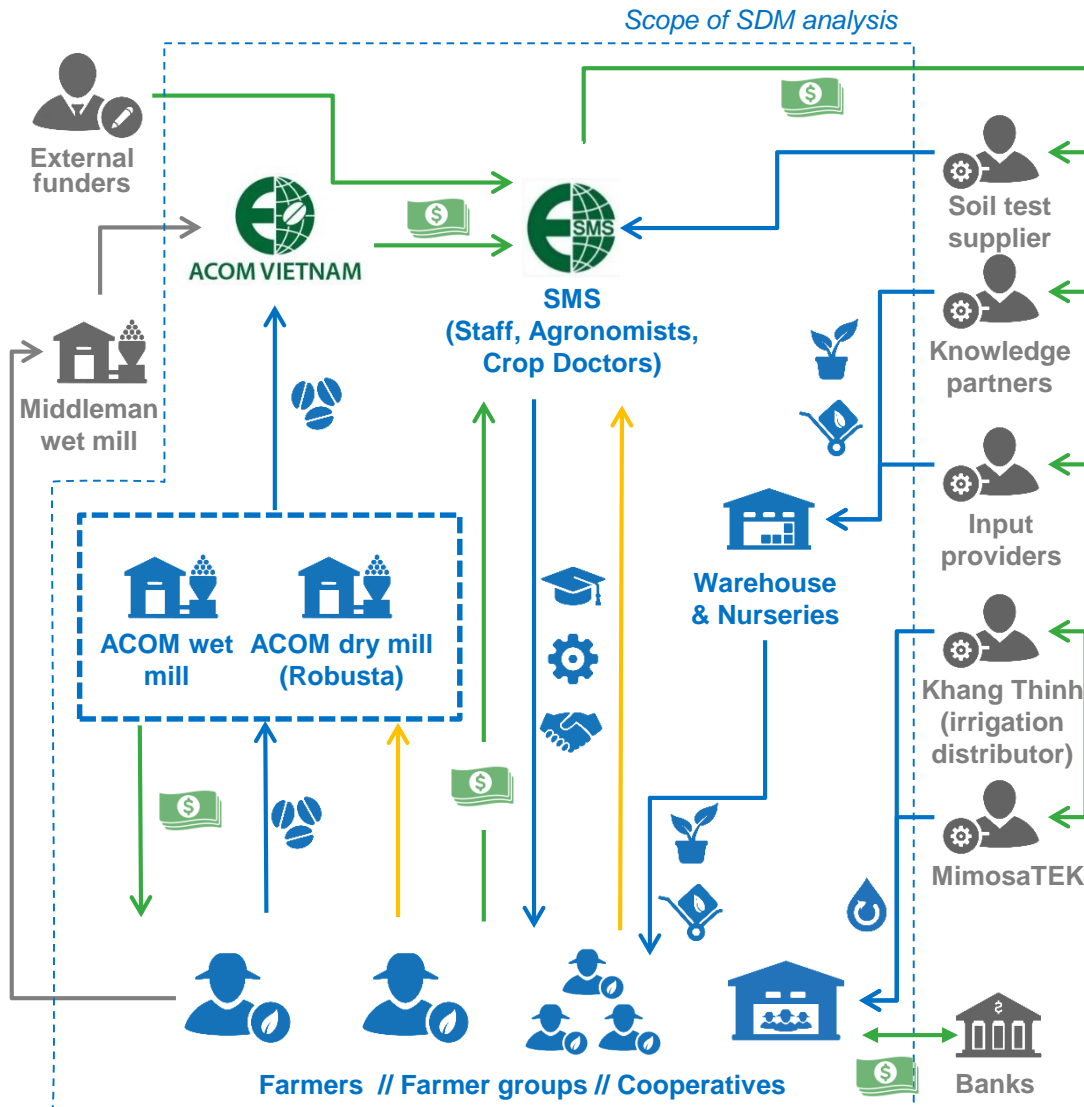
- 1 Improve quality & quantity of coffee produced
- 2 Stimulate farmers to cultivate coffee more sustainably
- 3 Give farmers access to transparent and effort-rewarding inputs
- 4 Strengthen farmer organizations

SDM rationale:



* For more info on SDM archetypes, see the [IDH Smallholder Engagement Report](#)

SDM and structure and enabling environment



- SMS provides a multitude of services to farmers, earning a margin on sales. Some inputs (agro-inputs, irrigation infrastructure, knowledge) are provided through partners. Coffee is sourced and processed at ACOM mills, or later sourced from middleman mills.

Enabling environment

Farmers and ACOM / SMS are impacted by several factors within their enabling environment. Most important factors are:

1. Inputs & financing

Locally available agro-inputs are regularly counterfeited, fake or even banned products. High interest rates charged by village middlemen for smallholder pre-financing result in barriers towards farm investment

2. Environmental risk

Coffee monocropping and lack of shade-dense environments threatens long-term sustainable yields as climate is changing. Rainfall is volatile, unevenly distributed across regions. In dry years water is overused or inaccessible.

Legend → Flow of goods and services → Cash flow

Services delivered and farmer segmentation

Farmer training & compliance

- SMS trains farmers on GAP, providing advanced training modules tailor-made to the SDM packages' delivery
- Farmers' compliance with certification standards and national laws is guaranteed by the training activities and in parallel by the internal & external inspection led by SMS to fulfill ACOM's certification needs

Farmer organization (FO) support

- SMS stimulates the transition of collaborative farmer groups to cooperatives, providing them with access to bank loans and increased investment capacity
- SMS plans to facilitate initial trainings from RIAS and regular coaching

Renovation & planting material

- In partnership with CIRAD and WASI, SMS provides high quality planting material for Arabica and Robusta
- SMS invests in nurseries for coffee and shade (fruit) trees and sells this planting material
- SMS manages non-performing farmers' plot, providing inputs and technical assistance before handing it back

Agro-inputs & safe application

- SMS offers two agro-input packages to farmers: So-called GOLD inputs focus on generic, price competitive inputs, while PLATINUM inputs are of higher standard, focused on improving yields.
- These packages are to be sold under the Crop Doctor brand. Local businesses will be set up as distribution points.
- Qualified and cost-effective spraying squads are set up

Soil testing

- SMS' agronomists use soil testing devices to provide farmers with detailed and tailored input recommendations based on reported soil deficiencies
- This allows farmers to optimize applications improving yields, saving costs and reducing the environmental impact

Precision irrigation

- Farmers adopt drip irrigation from Netafim to save costs and increase their yields, using MimosaTEK's mobile application
- This supports water savings and electricity usage, replacing most of the hard labour work of manual irrigation and fertilization.

Farmers are segmented in this SDM:

Farmers are requested to comply with a minimum set of standards when joining the SDM (amongst others not being located in a deforestation free area and and farms being free from child labor). During the SDM, farmers are expected to sign individual agreements.

Furthermore, services are tailored to two different farmer segments:

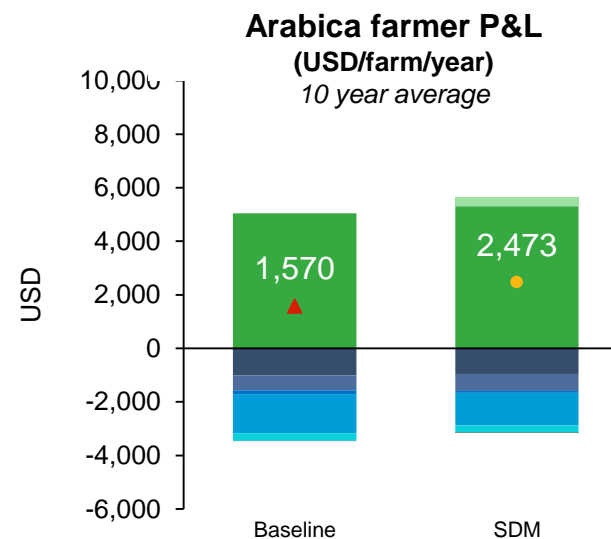
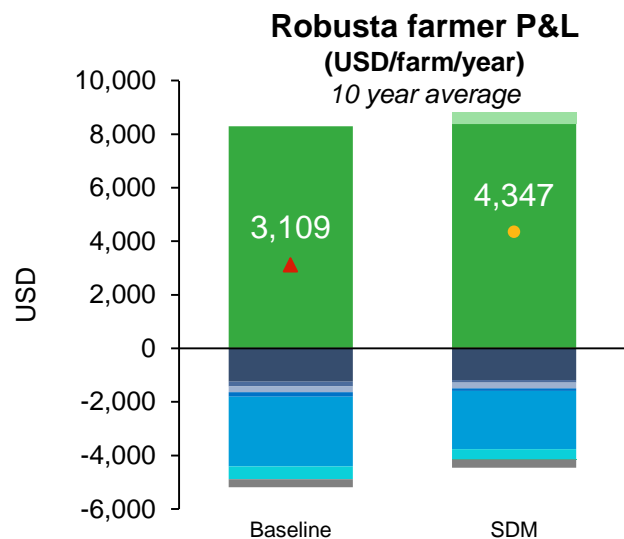
Robusta farmers

Most farmers in this SDM (and Vietnam in general) are Robusta farmers. Robusta yields are high, and the farmers are among the top-performing coffee farmers globally. Advanced services such as PLATINUM inputs and precision irrigation are targeted to these farmers.

Arabica farmers

Some Arabica farmers also participate in the program. These farmers are much poorer, often located in remote areas and experience below average coffee performance. GOLD inputs are currently more suitable to these farmers.

10-year average farm P&Ls: Robusta and Arabica



- Fruit tree revenues
- Labor expenses
- Agro-chemicals expenses
- Fruit tree expenses
- ▲ Baseline net income
- Coffee sales
- Renovation expenses
- Fertilizer expenses
- Other expenses
- Coffee premiums
- Irrigation expenses
- Financing expenses
- Net income

Robusta

Average Robusta farmers within the SDM are able to bring down their costs considerably compared to baseline, while keeping productivity relatively constant. This results in a net profitability increase of 1,238 USD/farm (40% increase from baseline).

The main savings come from reduced spending on fertilizer and subsequent interest payments on those loans outstanding. There are also some savings on agrochemicals and hired labor costs.

Diversification with fruit trees, as supplied with the renovation services provided by SMS, yields an additional USD 417 increase in net income.

Arabica

Average Arabica farmers within the SDM see their profitability increase with 903 USD/farm compared to baseline farmers, corresponding to a 57% increase. This is mainly due to slightly increased yields, reached by renovating with improved Arabica plant varieties (whose additional yield delivers on average USD 249 more income each year), and diversification with fruit trees while renovating (earning on average USD313 per year with fruit sales).

On top of this, like the Robusta farmers in the program, Arabica SDM farmers make savings on fertilizer and crop protection purchases and hired labor.

Farmer profiles: Robusta

To assess the impact of different services provided to Robusta farmers, four different farmer profiles have been defined, which receive and adopt a different set of services. The (10y average) results per profile are compared to baseline farmers outside the SDM.



There is little focus in the SDM on increasing the already high yields of Robusta farmers. Only by applying fertigation (drip net irrigation required) can a significant boost in productivity (and associated revenues) be obtained

Additional revenues from diversification with fruit trees are significant once the trees mature

Significant investments in irrigation are paid back over 5 years. The incurred additional cost compared to baseline farmers is largely negated by cost savings on inputs and hired labour.

All services have a significant positive impact on farmer income. Additional net income from fruit trees and irrigation could be combined.

Farmer profiles: Arabica

To assess the impact of different services provided to Arabica farmers, four different farmer profiles have been defined, which receive and adopt a different set of services. The (10y average) results per profile are compared to baseline farmers outside the SDM.



There is a small increase in productivity for SDM farmers from improved seedling varieties. Inputs are focused more on cost-efficiency.

Large additional revenues are obtained by the direct sourcing scheme (due to quality premium payment), and income from fruit trees used to diversify the farm

Cost of production is mainly reduced by savings on inputs and hired labour. Additional costs are incurred under the direct sourcing scheme.

Significant increases in net income are projected. The direct sourcing scheme and diversification add great value and can be combined for even greater profits.

Farm price sensitivity: Robusta & Arabica

Robusta farm profitability (USD/ha, 10 year average)
for combinations of green bean productivity (x-axis) and farm-gate price levels (y-axis)

		Productivity (MT/ha)				
		2.2	2.5	2.8	3.1	3.4
Farm-gate price (USD/MT)	1,500	984	1,312	1,640	1,968	2,297
	1,600	1,176	1,526	1,876	2,226	2,576
	1,700	1,367	1,739	2,111	2,483	2,855
	1,800	1,559	1,953	2,347	2,740	3,134
	1,900	1,751	2,167	2,582	2,997	3,413

Average SDM Robusta farmer: 2.11 ha farm, 2.74 MT/ha productivity and farm-gate price of 1,711 USD/MT

Arabica farm profitability (USD/ha, 10 year average)
for combinations of green bean productivity (x-axis) and farm-gate price levels (y-axis)

		Productivity (MT/ha)				
		1	1.2	1.4	1.6	1.8
Farm-gate price (USD/MT)	2,000	68	360	651	942	1,234
	2,300	346	681	1,016	1,351	1,686
	2,600	624	1,002	1,381	1,759	2,138
	2,900	902	1,324	1,746	2,168	2,590
	3,200	1,180	1,645	2,111	2,576	3,042

Average SDM Arabica farmer: 1.58 ha farm, 1.29 MT/ha productivity and farm-gate price of 2,935 USD/MT

Volatile variables

Coffee prices are highly volatile, while SMS/ACOM has little influence on this matter. Also, large variation is seen between coffee yields of different farmers. It is thus useful to assess the farmers' net income's sensitivity to these variables to quantify ranges of risk to the farm's financial sustainability.

Robusta and irrigation

Vietnamese Robusta farmers are among the highest producing coffee farmers globally. Precision irrigation is key in maintaining these high productivity levels by preventing the negative impact on yield from droughts.

Arabica and the poverty line

Key challenges for Arabica farmers are fluctuating prices (ranged from 1,600 to 3,000 USD/MT in the past 5 years) and low productivity (1 MT/ha is not uncommon).

During years of low coffee prices, an average farmer quickly falls below the international poverty line of USD1,093 per household per year*. A lower performing farmer (producing below or equal to 1MT/ha) cannot reach the poverty line, even in years of high farm-gate prices. Increasing the productivity of Arabica farmers is essential in improving their livelihoods.

* Uses the World Bank's international poverty line of 1.90 \$/day, adjusted for PPP 2016 (private consumption) of 9,063 VND/\$ and exchange rate of 23,000 VND/\$. Assumes a household of the farmer and 3 dependents.

SDM projected outcomes and main learning questions

These results do not represent an official assessment of SDM success or failure by IDH or NewForesight. An indication is given based on the analysis done in this forward-looking study and assumptions provided by the SDM operator(s). Actual assessment should be done during and after the SDM, using measured data

SDM objectives

Projected outcomes

<p>1 Improve quality & quantity of coffee produced</p>	<ul style="list-style-type: none"> • Productivity increases for Robusta (4%) and Arabica farmers (11%) compare to baseline. Improvements in coffee quality could not be assessed, yet are expected as improved Arabica varieties come to maturity
<p>2 Stimulate farmers to cultivate coffee more sustainably</p>	<ul style="list-style-type: none"> • All SDM farmers (6,000) are trained on GAP and are compliant with 4C, UTZ and RA. Farmers are encouraged to use less agro-inputs by buying from Crop Doctors (400+), use water saving irrigation technologies (50) and diversify their farms (50)
<p>3 Give farmers access to transparent and effort-rewarding inputs</p>	<ul style="list-style-type: none"> • In 2018 the Crop Doctor brand is being rolled out to offer better quality and affordable inputs (GOLD package), or more technical, advanced products (PLATINUM). Improved planting materials can be bought at competitive prices
<p>4 Strengthen farmer organizations</p>	<ul style="list-style-type: none"> • SMS seeks to work closer together with coops, improving their service offering and to form farmer groups for more efficient service delivery, sourcing and potential for application for VnSAT loans.

Learning question	SDM insights
<p>What project objectives do we need in order to reach a break-even point for the total packages of services to smallholders?</p>	<p>In order for SMS to better understand their breakeven point they need to set targets on scale, market reach, average transaction size, feasible margins and corresponding demand elasticity. SMS can test their products and collect data on those points in order to understand farmer needs and impacts of services.</p>
<p>How can you build a model which is not funded by certification premiums?</p>	<p>A sustainable service provision model depends on developing attractive, impactful products that farmers are willing to pay for and SMS can make a margin on. Seeking partnerships to co-finance precision irrigation equipment or co-develop Crop Doctor input packages is critical to bring costs down.</p>
<p>What are the assumptions about how services depend on each other and which services are most crucial for the success of the SDM?</p>	<p>There is a strong interdependence between services. E.g. soil tests open up recommendations for Crop Doctor fertilizer packages, and fertigation can be sold bundled with precision irrigation equipment. At farm level the irrigation-fertigation combination significantly improves the business case. Services that are critical to get right for SMS are the sale of seedlings, fertilizer and agro-chemicals at the right price via the most cost-efficient distribution channels</p>

Key insights



Key drivers of success

- Service delivery is seen as a business. The team understands services are designed to make a profit, either through margins or premiums.
- SMS regularly collects granular financial, agronomical and contextual data, which informs decision-making.
- Market research and innovation drive service design. A good understanding of the different farmers' needs, changing environment and experimental mindset enables SMS to offer farmers innovative services and packages tailored to their needs.



Key factors in replication

- Service delivery is set up as a standalone, business-driven entity, separate from the crop processing and trading business. This independent approach requires the delivery of tailored, cost-efficient services with clear benefits to farmers and drives continuous improvement of those services.
- SMS can build on its global network of service provision businesses, the source of many insights and infrastructure.
- Besides a global network, SMS upholds close collaboration with local stakeholders. These are key to help tailor services to the local needs.



Key risks

- Farmers' willingness to pay for new services is unknown. For many of the services still only limited testing has been done before scaling up. Lower than expected offtake and/or margins will greatly impact the profitability of the SDM
- While the contents costs and pricing of most services are relatively clear, how these services are being delivered to or picked up by farmers is still unclear.
- The Robusta coffee market is highly price sensitive. With SMS starting to source directly from cooperatives and farmers, this can lead to unfavourable negotiations with current suppliers with the potential of losing them. For Arabica this is less of a risk.
- Certification premiums are expected to decrease. By then, the SDM should have reached sufficient scale with an effective, affordable and tested service offering in place.



Opportunities for improvement

- The distribution network to farmers can be further formalized, creating clarity on how services will be delivered and by whom. Such designs can be piloted and tested with stakeholders.
- A clear framework leading to continuous improvement could be incorporated in all services. With many of the services still in a premature phase, a lot of elements are as of yet unclear SMS needs to be able to build, learn and improve: introduce a framework with targets, a monitoring system, and clear moments of evaluation.
- Assessing farmer adoption of services and their willingness to pay could help in designing and continuously improving the services, as well as clarify the financial viability of service provision.



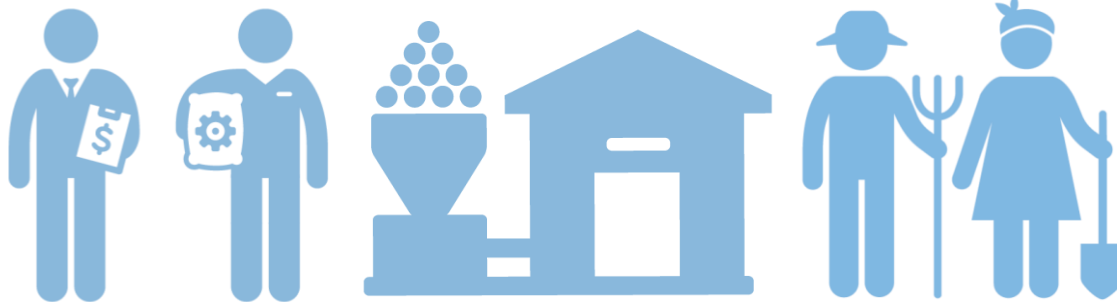
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For more information, see the [IDH Smallholder Engagement Report](#). This report, gathered by analysing over 30 individual SDMs in 16 countries, provides insights into IDH's data-driven business analytics. The findings identify drivers of farmer resilience, cost reduction and financial sustainability in service models and the conditions needed for a supporting enabling environment.