A TOOL FOR SELF-REPORTING ON THE IMPACT OF DIGITAL AGRICULTURE

VERSION 1.1

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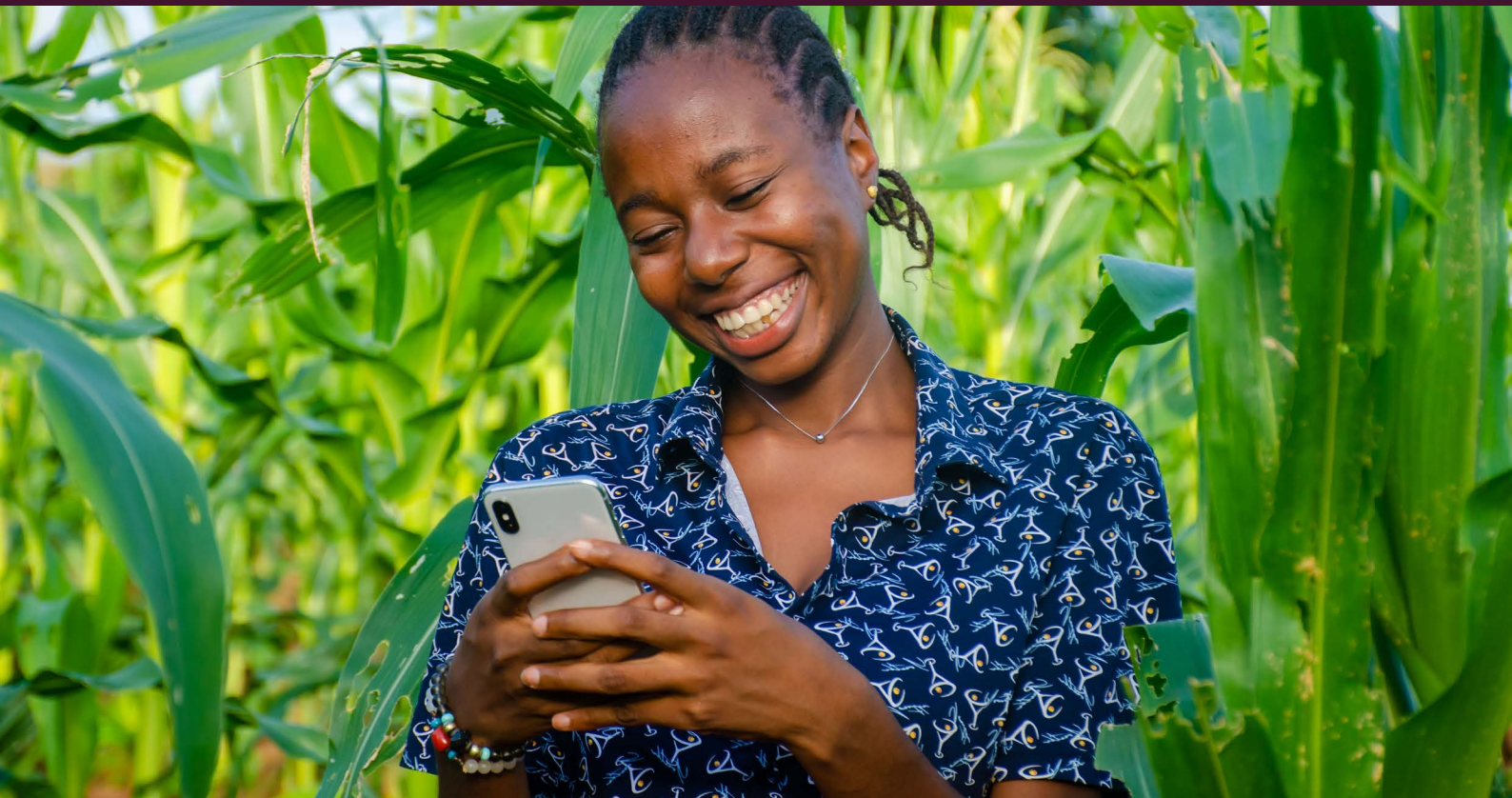
SETTING A SIMPLE STANDARD FOR IMPACT MEASUREMENT

A tool for self-reporting on the impact of digital agriculture

You are looking at a tool for self-reporting on the impact of digital agriculture. It's a practical guidebook that helps digital service providers, who have developed and deployed digital products or services for farmers in low-income countries, to be able to report on the impact that their service or product makes on the agricultural performance of their users.

The tool is also relevant for digital service enablers, such as donors and investors who provide (financial) support to digital service providers. For them, it's relevant to understand how to best go about impact measurement across their programmes or portfolios.

Who's this tool for?

Who	Examples	Use cases
Digital service providers	Agritech startups, input suppliers and other value chain actors with in-house software solutions.	*"I want to use a simple and effective way to measure impact that does not break my budget and require a lot of resources"* *"I would like the impact measurement to help me identify improvement areas for our digital service"* *"I want the metrics to become an industry standard for donors and investors, so that I can simply share what I have already measured."*
Digital service enablers	Donors and investors, and other industry organizations that provide financial and non-financial support to agritech enterprises and programs.	*"I want my grantees or investees to report on metrics that measure what impact our contribution leads to."* *"I would like to use the same metrics so that I can compare and benchmark different initiatives that I support or seek to support."* *"I'm interested in leveraging data and insights for advocacy purposes".*

This tool focuses specifically on the impact of digital services on farmers in low-income countries. For impact on agri-businesses, this tool is far less applicable. In future iterations, we aim to include impact reporting for digital service providers that focus on agri-businesses.

ABOUT THIS TOOL

SETTING A SIMPLE STANDARD FOR IMPACT MEASUREMENT

Why we've made this tool?

The Digital Agrifood Collective (DAC) developed this tool as we saw a need for setting a simple standard for measuring the impact of digital agriculture in low income countries. There are three main reasons for this, we've summarized them in the below A-B-C.

Accessibility and affordability

It can be quite an undertaking to carry out conventional impact assessments. For many digital service providers the costs of such assessment can hardly ever be offset by the revenues. As a result, many service providers have limited impact data to report on.

Better benchmarking

Since there is no unified standard, existing impact data is fragmented, whereas standardized metrics would allow for better benchmarking and could help clarify and showcase impact to donors and investors. Which ultimately may influence evidence-based policy making and as well as advocacy efforts. By aligning multiple organizations in the digital agriculture ecosystem, we aim to set a shared standard.

Convenience

Most concretely, we strive for making a tool that makes it easier for digital service providers to measure their impact, and not unimportantly, build impact measurement into their digital products.

How we've developed this tool?

To build this tool, the DAC team reviewed other impact measurement and initiatives for standardization in the field of agriculture and digital innovation. We interviewed DAC members and several other experts on the topic of impact measurement, and conducted interactive workshops to validate research findings with DAC Members. As this is the first version of this tool, we welcome you to share their feedback with us and collectively work towards setting the standard for impact measurement.

HOW TO USE

MAKE SURE TO READ THIS BEFORE YOU START USING THE TOOL

Introduction

This tool is intended for digital service providers to use as means of self-reporting on their impact for farmers in low-income countries. In order to do this effectively, this tool takes you through three steps. In the first step, you will explore the context in which your digital service operates. The focus of this tool is on the second step which is about measuring your impact. This step consists of four sections that help you to define and calculate your active users, gauge their satisfaction with your digital service, setup and measure outcome indicators and lastly determine your impact. In the third and final step of this tool you will put together your impact report.

Theory and practice

This tool combines theory and guidance on measuring impact with concrete actions to capture the impact of your digital service. The second and third step of this tool therefore present a series of forms to fill out your data. Alongside providing data, a large component here is providing argumentation and explanation on your data collection.

Setting you up for impact

To help you get started on your impact measurement journey, this tool is intended to provide offer digital service providers a simple way into capturing insights on impact. It is very likely that you do not have not all data ready when you start using this tool. It is recommended to begin with the data you currently have, this will show you where you can improve. Gradually build this out by building impact measurement into your digital products and processes, following the suggestions in this tool.

Design the best approach

This tool requires you to think critically about your digital products and the impact you aim for. In order to best measure and report on the impact, you have to decide what data to gather and how to best collect it. In this tool, a lot of guidance, suggestions and examples are provided, but ultimately you are responsible for designing the right approach to measuring your impact.

Self-reporting

It's important to realize that self-reporting on impact is not the same as an impact assessment by a third party. As a digital service provider that is self-reporting on your impact, you are responsible for delivering reliable data. It is likely, that at some stage, you want to share this data with investors, donors or partners. Therefore, it's vital to provide evidence on how you've collected the data and how you've defined your indicators.

How frequent?

It is recommended to collect and measure data with this tool on a half yearly basis, if that's too big of an ask make sure to collect data at least once in a year. If you do this consistently over time, you will be able to track progress across you indicators. This in turn will provide you with insights to improve your digital service and ultimately impact.

GETTING THE CONTEXT

SERVICE TYPES

DETERMINE WHAT TYPE(S) OF DIGITAL SERVICE YOU OFFER

In this tool, we distinguish between five main types of digital services. Make sure to know to what types apply to your digital service in order to tailor your impact measurement.

Different digital services make different types of impact, and may require a different approach to impact measurement. Some digital services focus on one single type (for instance access to information) while others combine multiple types (say access to information, markets and finance). Read the service types, definition and examples and mark the type(s) that apply to your digital service. This tool caters for self-reporting on a single service type, if your digital services ticks multiple service types, it is recommended to select the service type that covers the largest number of active users. However, if you want to use the tool for multiple service types, you can repeat the process for each unique service type. Please note that value chain management software (or ERP solutions) require a different impact measurement approach and is kept out of scope for this tool.

Types of digital services

Service types	Definition	Examples
☐ Access to information	Help users improve productivity through advisory services and training (e.g. agronomic knowledge, agricultural practices, weather predictions).	M-Shamba (Kenya) provides information to farmers through the use of SMS. Yielder enables farmers to access training remotely, by using their email address and passwords to login. In a blended learning environment, a Yielder ambassador will train groups of farmers.
☐ Access to markets	Helps farmers to sell their produce to consumer markets and/or aggregators and agro-processors or to access market information via digital means (e.g., agri e-commerce).	Twiga Foods (Kenya) connects fruit and vegetable farmers to urban retailers.
☐ Access to inputs and mechanization	Helps users access inputs (e.g., fertilizers, seeds), and/or mechanization services (e.g., renting tractors) by connecting them with input suppliers.	Trotro Tractor Limited (Ghana) allows the farmer to request, schedule and prepay for tractor services.
☐ Access to finance	Help users access to digital payments, credit and insurance.	Pula is an agricultural insurance and technology company offering innovative agricultural insurance and digital products to help smallholder farmers endure yield risks, improve their farming practices, and bolster their incomes over time.
☐ Value chain management (ERP)	Enterprise resource planning (ERP) software to manage agribusinesses or farmer cooperative (e.g. finance, HR, comms), aggregate, distribute and track products.	eProd offers supply chain management software for agribusinesses.

USER SEGMENTS

DETERMINE WHAT TYPE(S) OF USERS YOU ARE SERVING

Digital services are relevant for a range of different users. It's important to be aware who your users are and what user segments you serve.

In this guidebook we often use the term "users". When we refer to users we typically mean farmers who use your digital service. Your users could however also be extension agents who help deliver the digital service to the farmers. Even though your direct users might be extension agents, the impact measurement in this guidebook is mostly aimed at the farmers. It might be, that your digital service is designed for other user groups, such as agribusiness entrepreneurs, farmer cooperatives, retailers or consumers. Please note that this guidebook does not cater for impact measurement with those user groups.

Now that you know how users are defined in this guidebook, it's worth having a look at user segments. Since farmers as a user group is still quite a broad group, we would like you to include gender, age and farm size into your impact measurement. To help you on your way, we have defined the following three user segments. You will see these segments come back in the next chapters on impact measurement and reporting.

Optionally, other segments, such as education level, location, or crop type could be taken into consideration. This tool does not directly cater for additional segments but you're invited to keep stock of more segments if this is applicable and relevant for your digital service.

User segments

Segments	Definition
Women *Gender*	Women farmers who self-report to actively (or fully) take part in the farm work.
Youth *Age*	Young farmers aged between 15 - 35 years who self-report to actively (or fully) take part in the farm work.
Smallholders *Farm size*	Small size farms that do not exceed a land size of two hectares and whose self-reported household income level is lower than a living income for their region.

MEASURING IMPACT

1. ACTIVE USERS

HOW MANY PEOPLE ARE ACTIVELY USING YOUR DIGITAL SERVICE?

In this step, you will determine how many people make active use of your digital service. This is important because only active use has the potential to lead to impact.

We define active users as the **number of unique users who interact with the digital service relevantly and frequently over a past period**. So active users are not your total number of registered users, and neither occasional users. In order to define who your active users are we distinguish between a few parameters.

Unique users

To determine your unique users, we ask you to check there are no duplicate users in your database to arrive at your **total number of users**. Also make sure you know and explain how to count your users, does one account represent one person? Furthermore, be clear on who the user really is. Many digital services rely on intermediaries, such as extension agents who carry a mobile device, to help users access a digital service. Even though you could classify the interaction between your service and the user as indirect use, each user serviced by the extension agents, counts as a unique user.

Relevancy and frequency

In order to define active use, you will have to look at the number of relevant interactions with the digital service in a certain period of time. The **relevancy and frequency of use varies per digital service** so you will have to decide for your digital service how to define frequent use. For example, a weather forecasting service will likely require a very brief interaction on daily or weekly basis to be effective, a relevant interaction with a digital insurance service might only happen once or twice a year.

We ask you to write down **how you define relevant use** for your digital service and then indicate the **number of interactions** in a self-defined **period of time**, to make a user qualify as an active user. Note that this period of time is always in the past, say last month or last year.

EXAMPLE
Counting active farmers across multiple services

A digital service company and NGO collaborate to provide bundled services (inputs, mechanization, insurance) to rural maize farmers in Kenya through farmer hubs. The digital service tracks unique subscribers through farmers' digital accounts. Active farmers are categorized into two groups: For inputs and mechanization services, they must have used purchased fertilizers or pesticides at least once between May and July (which is the key period for growing maize). For insurance services, active farmers are those who have enrolled in the insurance program and maintain paying their coverage. To determine the active farmers' number, the digital service only counts the unique farmers even though some may have received both services.

1. ACTIVE USERS

DETERMINE THE NUMBER OF ACTIVE USERS FOR YOUR DIGITAL SERVICE

1A. Unique users

Write down the **number of unique users** of your digital service.

Example: 13.257 unique users

If applicable, write the **number of extension agents** involved to reach the unique users of your digital service.

Example: 83 agents

Explain your answer. How did you get to your **number** of unique users. What **proof** do you have to back this number? Did you make any **assumptions** to get there?

Example: We got this number by looking at the number of sign ups of our app. We have 18.431 users that are registered with us. There are many duplicate users and also users that have only downloaded the app but never used it. I've subtract those from the registered users.

1B. Relevancy and frequency

How do you **define relevant use**? What interaction(s) with your digital service should a user have to make it relevant? There are many ways to define relevant use, try to come up with a **simple but meaningful definition** for your digital service.

Example: For our app, we count relevant use only when a farmer provides feedback to the advise we give him/her. For instance, the app advises the farmer to use fertilizer to make crops grow. Only when the farmer indicates that he/she has used fertilizer in the app, we count it as relevant use.

Minimum number of user **interactions** with your digital product (possibly via an extension agent) to be considered active use.

Example: Following our app's advise at least three times

Time period (e.g. week, month, year) over which you will determine frequent use.

Example: Per year

1C. Active users

Now, deduct how many of your unique users, make relevant and frequent use of your digital service. This constitutes your **total number of active users**. Please indicate how you've gotten to this number. For instance: *Did you estimate a percentage of your unique users or can your provide evidence based on the user data of your digital service?*

Total **active users:**

Example: 8.250

Percentage **women:**

Example: 50%

Percentage **youth:**

Example: 25%

Percentage **smallholders:**

Example: 57%

Provide **evidence** for how you got to your total active users:

Example: Farmers who use our app , are asked to indicate whether they found the provided advisory services useful and if they've put them to practice. If the answer is 'yes' we consider it 'active use'. We had to estimate the amount of women and youth. The percentage of smallholders we can gather from the user profiles.

2. SERVICE SATISFACTION

HOW SATISFIED ARE USERS WITH YOUR DIGITAL SERVICE?

In this step, you will determine the percentage and degree of satisfaction active users have with your digital service. This is important because satisfied users are more likely to continue to use the digital service.

We define service satisfaction as **the degree to which your active users are fulfilled in their needs, wants and expectations by your digital service**. Typically, service satisfaction is measured by scoring the digital service and taking an average of the accumulated scores. The satisfaction score can be measured amongst all active users or through a representative sample of active users. To ensure thorough data collection and service satisfaction reporting, follow the parameters below.

Methodology

To ensure the satisfaction score is interpreted in the right manner, it is ideal to adopt a standard satisfaction question and estimation method. We suggest you use the following question: *On a scale from 1 to 5, how satisfied are you with the digital service?* The scale can range from very dissatisfied to neutral to very satisfied. You should report on how you define satisfaction (for instance a minimum score of 4). To collect this data, you can use various methods, run a face-to-face survey, make calls to users or simply send a pop-up question in your app. It is important to capture which method was used. The timing of the survey is also important to note. We urge you to report on biases or limitations of your methodology. For example, a satisfaction score, based on a pop-up question in app, may primarily capture responses from enthusiastic users and thus cause bias in your report. Lastly, you could measure service satisfaction in a lot more detail by asking follow up questions, and encourage you to do that.

Representativeness

In most cases, it is practical to gather data from only a sample of active users instead of all active users. Make sure you collect data from a random and representative sample and prevent over (or under) representation of respondents (for instance having an unrepresentative number of urban users compared to rural users).

Satisfaction scores

Finally, make sure to determine the satisfaction score for the entire sample of active users as well as for all three of the user segments (women, youth and smallholder farmers).

EXAMPLE

Phone-based survey to gauge farmer satisfaction

An agritech service provider offers blended learning on agricultural practices to rural farmers in Nigeria, with both an app-based module and in-person training by field agents. In 2022, 5000 farmers completed the training, with 2000 doing it in person. The company randomly sampled 250 active farmers and surveyed 100 in-person trainees and 150 app-based trainees. The sample sizes were distributed proportionally based on geographic location. Respondents were randomly selected from a database and asked a satisfaction question on a 5-point scale through a phone-based survey. The company estimates that 50% of respondents gave a score of '4' or '5', indicating satisfaction with the service. The survey was conducted at least 6 months after the completion of the training to allow farmers to implement their learning.

2. SERVICE SATISFACTION

DETERMINE THE SATISFACTION SCORE OF YOUR ACTIVE USERS

2A. Methodology

What **question(s)** did you ask the farmers to determine their satisfaction with your digital service? What **method** did you use to **collect data** on service satisfaction? How do you **define a satisfied user**? What was the **time period**?

For example: We used the five-point satisfaction question suggested in this guide book, and counted those who scored '4' or '5' as satisfied. Since all of our active users interact with the digital services through our extension agents, we trained our field agents to ask this question to our active users and record the responses over a period of two weeks.

2B. Representativeness

How did you ensure a **representative sample**? **How many users** did you gather data from? Any potential **biases** or **limitations** that may influence your results?

For example: We have about 5.000 active users of our digital product who we service through the field agents. We have field agents in 5 districts, but 85% of our active users are in three districts. Therefore, to be cost efficient, we chose to survey farmers of these three districts only. The three districts are different from one another in terms of the types of crops, soil conditions, and weather conditions. Therefore, we wanted to ensure we have representative active users in our sample from all three districts. Therefore, we divided the sample size of 200 proportionally to the share of these districts in our total active user base, and randomly selected the active users from our database.

2C. Satisfaction scores

Now, fill out of how many users you captured satisfaction scores and provide the **average satisfaction score**. If you can, please disaggregate your data across the **three user segments**.

Number of **active users:**

Example: 200

Satisfaction score **active users:**

Example: 4.2

Number of **women:**

Example: 112

Satisfaction score **women:**

Example: 3.7

Number of **youth:**

Example: 47

Satisfaction score **youth:**

Example: 4.8

Number of **smallholders:**

Example: 164

Satisfaction score **smallholders:**

Example: 4.3

3. OUTCOMES

WHAT CHANGES ACTIVE USERS EXPERIENCE WHEN THEY ADOPT YOUR DIGITAL SERVICE?

In this step, you will measure outcomes, which are the desired changes that active users experience when they use the digital services.

In this guide, we refer to outcomes as the **desired changes in knowledge, practices or resources related to the farming of the active users as a result of using a digital service**. Since digital services are diverse in what they offer to their users, a single measure outcome may not be appropriate.

In this guide, we suggest a list of example outcome indicators that you can choose from. Outcome indicators help measure whether your digital service is achieving the expected changes in knowledge, practices or resources of your users. Lastly, it's important to be aware of the difference between outcomes and impact. Outcomes are typically needed to reach a desired impact. When the active farmers experience changes in terms of knowledge, resources, and practices, these should lead to better agriculture performance, and improved livelihood of the farmers. To report on impact, you need to complete the last section of this tool.

Selecting the right outcome indicator

It's important to **select the right outcome indicator(s) for your digital service** from the examples on the following pages. To illustrate this, an access to information service may measure the number of active farmers who adopt good agricultural practices, while an access to market service provider may measure the number of active users who received higher prices for the produce they sold via their digital service.

Make sure to **explain the logic and rationale** behind the desired changes, and why the selected metric is the right fit to measure that. It's also critical to make sure all terms of the metric are well explained. For example, if a digital service provider uses the outcome indicator *Percentage of active users who report adoption of best practices for their crop are recommended by the digital service* it would be vital to clarify which best practices this concerns and why.

Methodology

To measure the outcomes of digital services, you can use various methods such as reviewing app use, in-app surveys, transaction data analysis, phone-based interviews or in-person surveys. Regardless, it's crucial to **provide detailed information about the methods used**, including how the data was collected and which responses were counted as meeting the outcome criteria.

For instance, in the case of adopting best practices, it's essential to explain whether the adoption was recorded by extension agents in the field or collected through a user survey. Additionally, it's important to specify which criteria are necessary to qualify user adoption of the best practices. This level of detail will help ensure that the data collected is accurate and reliable, enabling a more accurate assessment of the impact of digital services.

Similar to the other steps, it's important to disaggregate the outcome data by segment (women, youth, and smallholders). Additionally, it's important to share the timeline of the data gathering to provide context and aid in the interpretation of the results.

Examples of outcome indicators

Percentage of active users who can recall the messages, lessons, or practices as shared by the digital service within a certain time period.

This indicator is relevant for **access to information** digital service providers (for instance training services or advisory services). The objective is to measure retention of the message, lessons or good practices that were conveyed. It's important to specify the key learnings beforehand and set the time period for retention.

Percentage of active users who report *access* to credit, training, and inputs.

This indicator is relevant for digital service providers that offer **access to information, access to inputs, and access to finance**. The objective is to measure whether active users perceive that they have better access to credit, training, and inputs as a result of the digital services. Clarity is crucial when discussing access as it can refer to various aspects. It can denote physical accessibility, affordability of services, or availability of quality services. More info in this **working paper**.

Percentage of active users who report *using* the credit, training, and inputs.

This indicator is relevant for digital service providers that offer **access to information, access to inputs, and access to finance**. It surpasses the notion of perceived access and delves into the actual usage of credit, training, and inputs. While active users may believe that they have better access, the level of usage offers a more objective evaluation of the value that the digital services provide to them. Defining usage is crucial, and it could imply various activities, such as applying the appropriate pesticides at the right time based on advice from advisory service providers, utilizing credit to rent or buy machinery, or using fertilizers or seeds on the land. More info in this **working paper**.

Percentage of active users who report adoption of best practices for their crop recommended by the digital service.

This indicator is relevant for digital service providers that offer **access to information** digital service providers. To adopt this outcome indicator, it is necessary to identify two to three essential practices that significantly impact productivity or quality. These practices need to be customized for each crop. Adoption of these practices implies that farmers are making an investment to follow them, as they are likely to result in high productivity. More info in this **working paper**.

Percentage of active users who report on the adoption of conservation practices recommended by the digital service.

This is similar to the previous outcome indicator, and is relevant for digital service providers that offer **access to information**, but the focus here is on adoption of conservation practices such as those related to soil disturbance, soil cover, crop diversification. This approach includes identifying two to three key conservation practices appropriate to the land and surrounding ecosystem. More info in this **working paper** and this **article**.

Number of active users who received a saving premium by using the digital service. *Savings obtained by purchasing a product or service from the digital service; and the average price they would otherwise pay for similar services in the local market.*

This indicator is relevant for digital service providers that offer **access to input**. It measures the savings that active users gain on procuring inputs or mechanization via the digital service contrary to other alternatives.

To determine the saving premium, the service provider needs to collect the average local prices of these inputs or mechanization services, and calculate the difference between these prices and the offered prices in the digital platform. Further, the digital service provider needs to calculate how many users purchased the inputs and as a result, received the saving premium. More info in this **catalog**.

Number of active users who received a producer price premium as a result of using the digital service. *Price comparison between offered price for producers products and the local market rate*

This indicator is relevant for service providers that offer **access to market**. It measures the price premium that active users gain by selling their products via the digital services compared to other alternatives.

To determine the price premium, the service provider needs to collect average local prices of the products, and calculate the difference between these prices and the offered prices in the digital platform. Further, the digital services need to calculate how many users sold their products and as a result, received the price premium. More info in this **catalog**.

Number of active users making repeat sales using the digital service *Repeat sales can be defined as two or more sales made within a specified time period.*

This indicator is particularly applicable for digital service providers focused on **access to market**. The metric measures the frequency of repeat sales made by active users utilizing digital services. The underlying assumption is that if these users benefit from higher prices or other advantages, they will continue to make repeat sales through digital channels, thereby improving their business performance.

EXAMPLE
Using transaction data to measure outcomes

A digital service facilitates farmers to request, schedule, and pay for tractor services. It measures the outcome by the *number of active farmers receiving a saving premium in the past year* and *average saving premium received by active users.* To compute these metrics, the provider assesses prevailing market rates through field visits and phone interviews with large and medium tractor service providers in the same areas as their active users. They then calculate a rule of thumb for saving premium per transaction by comparing their offered rates with the market rate. Using transactional data, the company estimates the total number of active users receiving a saving premium and the average saving premium per active user. The calculation formula and limitations, such as the consistency of local market rates or availability of other low-cost options, are also disclosed.

3. OUTCOMES

DETERMINE WHAT CHANGES FOR ACTIVE USERS WHEN THEY ADOPT YOUR DIGITAL SERVICE?

3A. Outcome indicators

Have a look at the list of **example outcome indicators**. Do they fit your digital service or do you need to tweak them? What **outcome indicator(s)** will you focus on for your digital service? **Write down the three outcome indicator(s)** you will focus on and **clarify your rational**.

> **1**
>
> *Example: Our digital platform enables farmers to advertise and sell crops to aggregators, as well as to procure inputs from input sellers. Using the transaction data, we offer credit to our active users. Our hypothesis is that the farmers get access to credit for the first time in their lives as they cannot easily access it from formal institutions. Our outcome indicator is: "Percentage of credit service recipients who got access to credit for the first time as a result of using the digital service".*

> **2**

> **3**

3B. Methodology and representativeness

How did you **collect data** on your chosen outcomes indicators? What **conditions** had to be met to consider active users to experience the outcome? **How many users** did you gather data from (disaggregate your data across segments if you can) and **how representative is this sample**? What was the **time period** of data collection? Make sure to also write down any **assumptions** you made.

> **1**
>
> *Example: We surveyed active users who received credit services from us in 2022 by creating a database of credit recipients within the time frame and sent text messages to all of them in January 2023. They were asked a simple question:"Prior to using our credit service, have you ever taken a loan from any financial institution for personal or farm related reasons?" Respondents replied by texting:"Yes," "No," or "Not sure". Those who replied "No" were categorized as first time credit recipients due to using our digital service.*

> **2**

> **3**

3C. Outcomes

Now, provide the **number or percentage** for each of your **three outcome indicators**. If relevant and if possible, please disaggregate your data across the **three user segments**.

Outcome for **active users:**

1

Example: 41% of our farmers got access to credit for the first time.

Outcome for **women:**	Outcome for **youth:**	Outcome for **smallholders:**
Example: 39% of women	*Example: 53% of youth*	*Example: 27% of smallholders*

Outcome for **active users:**

2

Outcome for **women:**	Outcome for **youth:**	Outcome for **smallholders:**

Outcome for **active users:**

3

Outcome for **women:**	Outcome for **youth:**	Outcome for **smallholders:**

4. IMPACT

HOW DOES YOUR DIGITAL SERVICE MAKE AN IMPACT?

In this step, you will determine the impact of your digital service. In other words, you will assess the agricultural performance of the active users.

We define impact as the **percentage of active users who report improved agricultural performance due to using the digital service**. In this tool, and often in practice too, we consider this impact to be of economic nature, for instance a higher income for farmers. The impact can however also be of social or environmental nature, for the sake of simplicity, this is left out of scope for this tool.

Defining your impact indicator

Each digital service goes about making impact differently, so **define your impact indicator based on your type of digital service**. Impact indicators are often composite metrics which can be measured in different ways, such as **increase in income** (revenues, production volumes, lower costs, or higher profits), **increase in assets** (advanced agricultural machines, more land under cultivation, other physical assets related to the farm) or **increase of the workforce**. For example, input services may reduce input costs, while finance services aim to increase capital. Important to your reporting is that you try to **explain your rationale** for how your digital service contributes to your impact indicator.

Data collection

Measurement methods of agricultural performance vary in accuracy, some service providers may compare active users to a non-users group (e.g. control group study), while others track changes over time (e.g. baseline-endline study). Digital service providers can also use research partners or internal resources. We recommend that at the very minimum you ask your active users if they believe using your digital service contributed to their agricultural performance. For instance: *Did you experience any changes in your revenue as a result of using the digital service over the last six months?* Make sure you select a timeline or season that fits the crop type, fix the answers and make this a closed question. The response can be validated with the second question: *How did using the digital service contribute to changes in your revenue in the last six months?* Whichever method you use, you should clearly report on the methodology used along with rationale for use.

Representativeness

The active users in your sample should represent your overall active user base and cover all three of the user segments (women, youth and smallholder farmers). Make sure to report on all the segments.

EXAMPLE
Surveying farmers about their profits in-app

An agri e-commerce platform enables farmers to directly sell their produce to urban retailers, and currently has around 1,000 farmers using the platform. To assess its impact, the company sends in-app questions to all active farmers: *"Did you experience any change in profit margins on your produce by selling through the e-commerce platform?".* Out of 250 respondents, 30% report some to significant increase in profit margins. The company reports this as a sign of improved agricultural performance, but notes the limitations of self-reported data and non-response bias. As the platform is primarily accessed through an app, the company assumes that farmers have sufficient digital literacy to participate in the survey.

4. IMPACT

DETERMINE THE SATISFACTION SCORE OF YOUR ACTIVE USERS

What question did you ask the farmers? How did you reach out to them? What was the time period?

4A. Impact indicator

Please **define the impact indicator for your digital service**. Think about how using your digital service positively affects the agricultural performance of the users. What indicator reflects that best?

Example: We offer an agro-machine renting service through our digital platform. By using our digital services, the farmers can save on labor hours by utilizing agro-machine at a competitive cost. Therefore, we define our impact indicator as reduction in cost of production for the farmers.

4B. Methodology and representativeness

How did you **collect data** on your impact indicators? What **conditions** had to be met to constitute improved agricultural performance or impact amongst active users to? **How many users** did you gather data from (disaggregate your data across segments if you can) and **how representative is this sample**? What was the **time period** of data collection? Make sure to also write down any **assumptions** you made.

Example: We ran a phone-based survey to 200 of our client farmers who have actively used our agro-machine renting service between June and December 2022. We ran the survey in the first week of January 2023. We spoke to 100 farmers spread (across all four region in which we're active) and asked the following question: "Did you experience any changes in your cost of production after you used our digital service to rent one of our machines". Any farmer who said "slightly decreased" or "significantly decreased" was counted as experiencing improvement on our impact indicator. To further validate we did a cross-check on what local agro-machine renting service providers charge for the same services that we provide, and found that we charge at least 10% less for all of our renting services than local market rates.

4C. Impact

Now, provide the **number or percentage** for your **impact indicator**. If relevant and if possible, please disaggregate your data across the **three user segments**.

Impact for **active users:**

Example: 32% of the farmers who actively use our agro-machine renting service report a decrease in cost of production after using our services.

Impact for **women:**

Example: 27% of women experienced cost reduction

Impact for **youth:**

Example: 36% of youth experienced cost reduction

Impact for **smallholders:**

Example: 34% of youth experienced cost reduction

REPORTING ON IMPACT

IMPACT REPORT

Copy your figures from the previous part of this tool into the corresponding boxes.

☐ **Access to information**   ☐ **Access to markets**   ☐ **Access to inputs and mechanization**   ☐ **Access to finance**   ☐ **Value chain management (ERP)**

1. Active users

Show how many users are actively using your digital service and how they are spread across the three user segments.

Total **active users:**

Percentage **women:**

Percentage **youth:**

Percentage **smallholders:**

2. Service satisfaction

Show how satisfied users are with your digital service and how the satisfaction is spread across the three user segments.

Satisfaction score **active users:**

Satisfaction score **women:**

Satisfaction score **youth:**

Satisfaction score **smallholders:**

3. Outcomes

Demonstrate what changes your active users experience when they adopt your digital service.

1

2

3

4. Impact

Demonstrate how your digital service makes an impact.