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ICT for learning process & tools
Volume II - Sub-national & National Governments

AGA KHAN FOUNDATION

Innovation Unit
New solutions for thriving societies

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ICT for Learning Process and Tools

This ICT for Learning Process and Tools have been designed to enable national governments, sub-national governments, and schools to maximise the return on investment into ICT. This toolkit will enable the users to undertake a process to guide ICT planning and investments by identifying the realities of the education system and schools in their own context, develop concrete, context-relevant solutions to prototype in their schools and education systems, and learn from the prototype and develop 'ICT Actions for Change'.

Volume I contains tools for schools and education providers while Volume II contains tools for sub-national and national governments.

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VOLUME II

VERSION 1.0

Contents to ICT for Learning Process and Tools

Introduction to ICT for Learning Process and Tools

The introduction is only a two page document useful to all to understand the background to the toolkit and the 10 domains for ICT for Learning

Guidance to ICT for Learning Process and Tools

The guidance document is useful to all and provides a short overview of the process, the tools, and how you can adapt these to your needs for Volume II (National and Sub-National Government)

Volume II – National and Sub-National Government

Volume II contains eight tools (there is no Tool 3) to enable national and sub-national teams to go through the ICT for Learning Process.

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Introduction to ICT for Learning Process and Tools

Introduction

ICT is becoming increasingly important in education globally. While ICT has great potential to support children's learning, education leadership and management, and more effective use of data for student, school, and systems wide learning, it is important to recognise the significant start-up and recurring costs associated with this and that, if not considered within the realities and context of different education systems and schools, this investment may not realise the expected outcomes and learning gains expected.

Based on the 10 dimensions identified in the 2018 '***Raising Learning Outcomes: the opportunities and challenges of ICT for learning***' UNICEF report (see below), this process and these tools have been designed to enable national governments, sub-national governments, and schools to maximise the return on investment into ICT. This toolkit will enable the users to undertake a process to guide ICT planning and investments by:

- Identifying the realities of the education system and schools in their own context with respect to:
  - Risks
  - Government Capability
  - ICT Infrastructure
  - ICT Coalitions and Partnerships
- Develop concrete, context relevant solutions to prototype in their schools and education systems
- Learn from the prototype and develop 'ICT Actions for Change'

N.B. While the final Action for Change will consider start-up and recurring costs, this process will not provide for a detailed investment case and business plan.

10

Domains for ICT for Learning

In 2018, the Aga Khan Foundation, Aga Khan Education Services, and Innovation Unit developed a report for UNICEF: 'Raising Learning Outcomes – the opportunities and challenges of ICT for Learning'. In this report, 10 domains were identified which are important to consider and engage with to maximise the impact on earning outcomes when investing in ICT for Learning. Below is a brief description of each.

1

PURPOSE AND PROBLEM SOLVING

To what extent is there clarity around the purpose of introducing technology in education and which learning problem(s) it is helping to solve?

2

STUDENT CAPABILITY

What are the existing and needed technical capabilities of students, and how do these vary across each student population?

3

TEACHER CAPABILITY

Which skills do teachers need to use new technology, and what is the relationship between these skills and broader teacher competency? In particular, how is the ability of teachers to create powerful learning environments/experiences enhanced by technology?

4

STUDENT AND TEACHER AGENCY

How can students and teachers engage as active participants in the introduction and implementation of ICT for learning?

5

TECHNOLOGICAL INFRASTRUCTURE

What are the technical requirements of the technology and are these in place (e.g. power, bandwidth, data security)?

6

IMPLEMENTATION AND CHANGE

What is the role of local leaders and what support do they need to create a culture of innovation and improvement?

7

ENABLING ENVIRONMENTS

What are the conditions that support a thriving learning ecosystem, enhanced by technology?

8

RESOURCES

What is required for effective and sustainable use of ICT for learning, including on-the-ground support capability?

9

COALITIONS

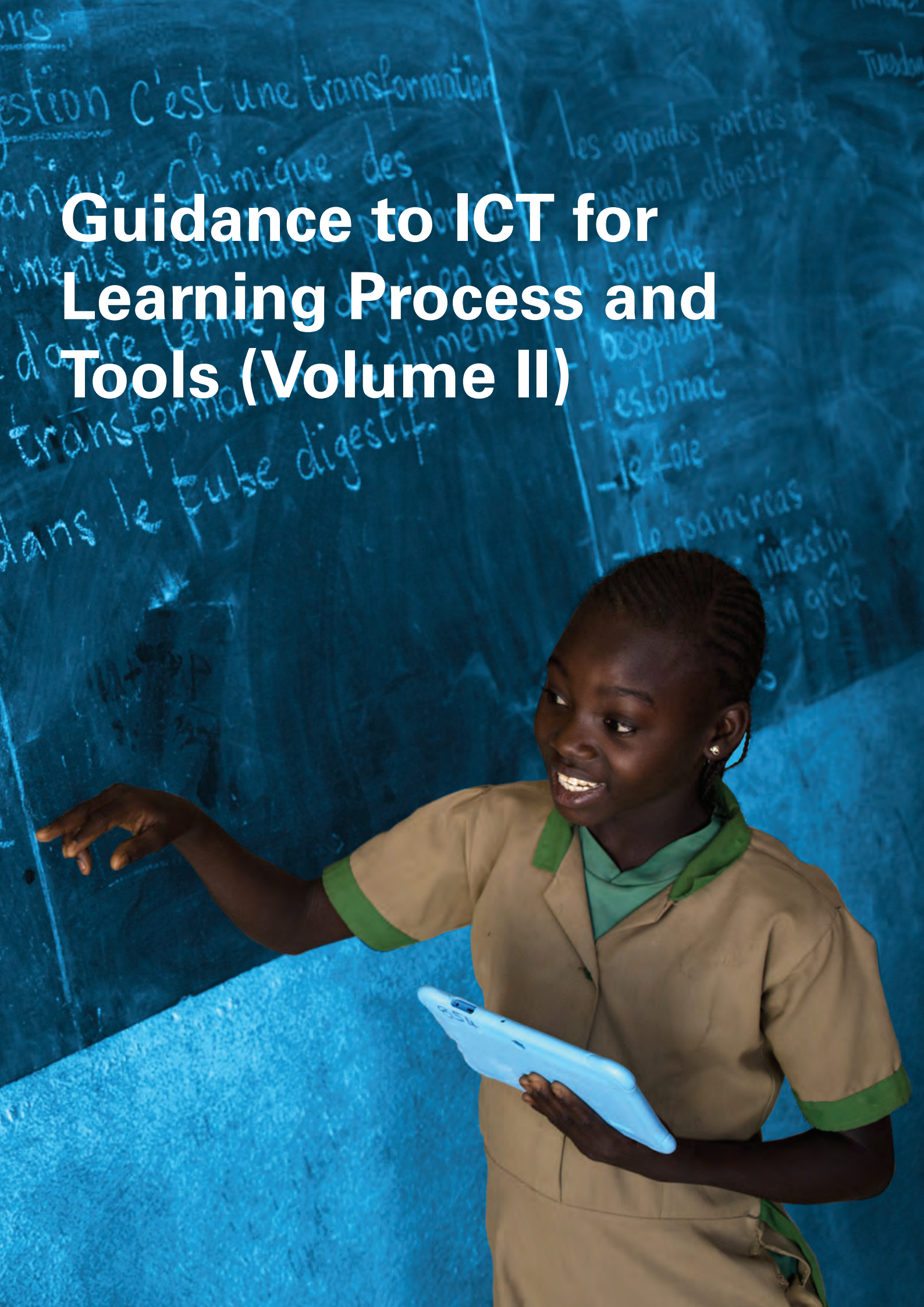
What role might partnership play in 'bundling' solutions to complement and amplify ICT for learning?

10

RISK

Which risks are associated with ICT for learning, and how might we mitigate against them?

Guidance to ICT for Learning Process and Tools (Volume II)



THE PROCESS

The toolkit has been designed to enable national governments, sub-national governments and schools to conduct an inclusive Human-Centred Design (HCD) process. This recognises the need to include diverse stakeholders from across an education ecosystem at all levels to develop and design the most impactful ICT solutions and focus investments on the realities as they exist in any particular education ecosystem.

The process (Figure 1), has four steps and eight tools that can be used together or can be extracted to focus on a particular aspect of ICT for Learning. This is discussed further below. The Toolbox is also separated into two volumes:

- Volume I – Schools and Education Providers
- Volume II – National and Sub-National Governments

Both of these volumes contain very similar tools, but are adapted to meet the specific needs of working at different levels of the education system. For example, it will be very difficult and expensive for national government actors to personally implement a process focused on teacher and student agency. This is far more relevant and cost-effective for schools to implement. However, it is important that national and sub-national government actors also have agency.

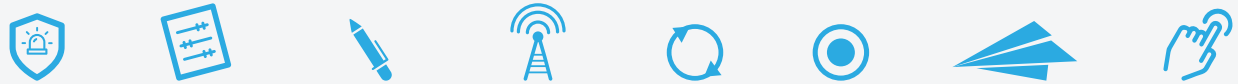
This guidance document is for tools in Volume II.

DIGITAL LEARNING PROJECT MAP: KEY

Colour Scheme

STEPS	TOOLS
STEP 1	Tool 1 Risk Matrix; Tool 2: Prioritise Your Problem
STEP 2	Tool 4: Education Officials ICT Questionnaire; Tool 5: Government ICT Infrastructure Audit; Tool 6: Government ICT Ecosystem Audit; Tool 7a/b: District/ National ICT for Learning Scorecard
STEP 3	Tool 8: Prototype for Action
STEP 4	Tool 9: Proposal for Action

ICONOGRAPHY



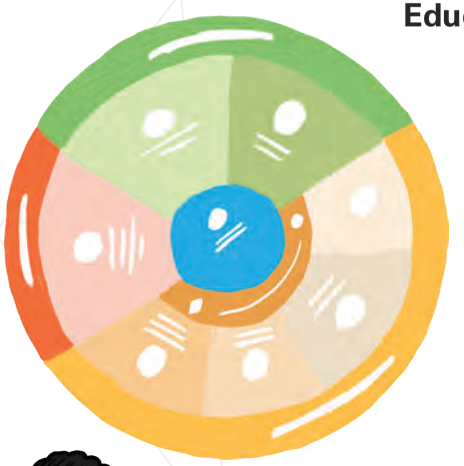
ICT for Learning Process & Tools

Character Introduction

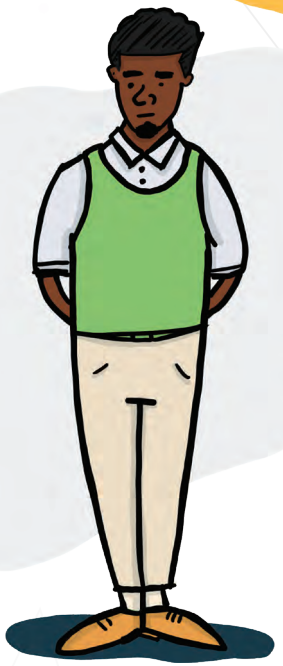
Meet our digital ICT for Learning Process & Tools, toolkit users, **Inyang, Nebiat & Nyerere**

They will act as your guide throughout the Toolkit.

Nebiat
District Head of Department



Nyerere
Minister of Education



Inyang
Education Officials

STEP 1: Tool 1
RISK MATRIX
Aligned to the Domain 10 – Risks

Who should use this:
Education officials

Group or individual:
Group

Print size:
A4 (except the worksheet which ideally should be A3)

Description of this activity

This matrix is designed to help you accurately assess and manage risks associated with implementing ICT for Learning. Through a set of activities, you will identify potential risks, rate them based on their impact and likelihood of occurrence and propose mitigation strategies for resolving the risk. This will help you to identify risks associated with action (investing in ICT) and inaction (Not investing in ICT).

Instructions For Use

This matrix is designed to help you accurately assess and manage risks associated with implementing ICT for learning in three steps:

- Identify the Risk
- Rate the Risk
- Plan for Mitigation

It is important to note that risks do evolve and change over time and so important to re-engage withthis tool on a regular basis as you plan and implement.

Below are descriptors for the three steps. Fill in the responses from the three steps in the worksheet provided.

Stage 1: Identify the Risk

This table provides you with a list of the type of risks you might encounter as you implement ICT and their description. Go through the list with your team and note down those relevant to your situation in the worksheet.

Stage 2: Rate the Risk

This table enables you to analyse and rate the risk identified in terms of its likelihood of occurrence and the consequences of its occurrence; further descriptions and examples of these are provided in the table. Review the list of risks identified in your worksheet and for each write down its likelihood and consequence of occurrence and finally, rate it: the rating is calculated from the table; For example, if the likelihood of a risk occurring is 'Unlikely (Not expected to occur) and its impact is 'Minor', the rate for this risk is 'Low'.

Stage 3: Plan for Mitigation

Use the information from your worksheet for this step. In the table, prioritise the risks identified and for each think through activities and measures you can put in place to mitigate the risk. Write down resources (physical, human, financial…) you will require to successfully implement your activities and input a timeline for completion and check-ins (review dates).

Stage 1: Identify the risk

Type of Risk	Description of risk
User characteristics	Fear of adoption of ICT in learning; that it may make the user obsolete
	Lack of or poor ICT skills and expertise by government officials
Funding	High cost of ICT installation and maintenance
In learning	Disruptive to government official's learning as it may shift focus from the trainer
	Over-dependence on ICT
	Trainers not enthusiastic about the changes and integration of supplementary learning associated with bringing computers into their teaching practices
Infrastructure	Inadequate and outdated computing devices
	Unreliable power supply
	Weak or no network connectivity
	Short tech life-span; devices and software obsolete regularly
Health and Safety	Correct and safe use of ICT; equipment placement, lighting, ergonomics
	Disposal of ICT materials; e-waste disposal
Security	Physical security: Damage, loss or theft of devices
	Software security: Malware, threats and vulnerabilities
Online security and child safeguarding	Data privacy concerns; personal information exposed online
	Exposure to unwelcome and inappropriate content
	Participation in risky online communication and behaviour
	Cyberbullying (willful and repeated harm inflicted through electronic devices)
	Mental health concerns, e.g depression, isolation, drug and alcohol abuse, loneliness and self-harm; from exposure, participation and contribution to harmful online content.
Inaction. Non-implementation of ICT	Fear of failure
	Procrastination; postponing implementation for later dates.
	Playing it safe; overly cautious of the implication of ICT
	Bureaucracy; inhibiting system
Others. Specify	

Stage 2: Rate the Risk

LIKELIHOOD	CONSEQUENCES				
	NEGLIGIBLE	**MINOR**	**MODERATE**	**MAJOR**	**SEVERE**
	A **NEGLIGIBLE IMPACT** on implementation, which should be possible to be handled at the operational level.	A **MINOR IMPACT** on implementation. It could involve such things as: · Minor delays or failure in providing services or achieving objectives · Minor dissatisfaction of users · Minor damage to reputation · Minor adverse financial impact	A **MODERATE IMPACT** on implementation. It could involve such things as: · Significant delays or failure in providing services or achieving key objectives · A minor breach of information security or probity which is recoverable · Limited dissatisfaction of users · Exposure to minor criticism and adverse publicity · Short term damage to reputation which is easily recoverable · Moderate adverse financial impact	A **MAJOR IMPACT** on implementation. It could involve such things as: · Major delays or failure providing services or achieving key objectives · A major breach of information security or probity which raises questions publicly · Significant dissatisfaction of clients and stakeholders · Exposure to significant criticism and adverse publicity · Significant damage to reputation, which takes years to restore · Significant adverse financial impact · Breach of legal or contractual obligations	A **SEVERE IMPACT** on implementation. It could involve such things as: · A critical business failure resulting in non-achievement of key business objectives · An extensive breach of information security or probity, which compromises integrity · Extensive loss of customer support · Exposure to extensive criticism and adverse publicity · Extensive damage to reputation, which could be irrecoverable · Extensive financial damage · Extensive breaches of legal or contractual obligations
Almost Certain Expected to occur in most circumstances	Moderate	Moderate	High	Very High	Very High
Likely Will probably occur in most circumstances	Moderate	Moderate	High	High	Very High
Possible Could occur at some time	Low	Moderate	High	High	Very High
Unlikely Not expected to occur	Very Low	Low	Moderate	Moderate	High
Rare May occur only in exceptional circumstances	Very Low	Low	Moderate	Moderate	High

Worksheet

#	Type of Risk	Description of Risk	Risk Rating		
			Impact	Likelihood	Rate

Step 3: Plan for Mitigation

#	**Description of risk, in order of priority (Very High to Very Low)**	**How to mitigate the risk.** *Describe activities or steps you would take to mitigate the risk*	**Resources.** *What or who do you need to engage to implement your strategy*	**Timeline.** *Input review and completion dates*

Reflection

Based on your analysis of the risks in the previous activities, reflect on the following:

NB: You will review these risks further in Step 4 when developing your proposal for action. This tool may be revised as you move along your ICT implementation journey and new insights are gathered.

Reference reads:
The State of the World's Children 2017

What will enable us to mitigate the risks?	What would prevent us from mitigating the risks?

What else should we bear in mind?	Who should we make aware of these risks? Why?

STEP 1: Tool 2

PRIORITISE YOUR PROBLEM

Aligned to Domain 4 – Student and Teacher Agency

Who should use this:
Education officials or policy makers

Group or individual:
Group or individual, but ideally done as a group

Print size:
A4 except for the COIN synthesis framework, which should ideally be printed as big as is possible

Developed by:
Innovation Unit and AKF for UNICEF

Description of this activity

Here you will learn about the concept of 'Human Centred Design' and some core principles to keep in mind when applying it to your work. You will then find two Human-Centred Design activities that will help you to discover more about the learning needs and challenges of education officials, so that you can define the learning challenges that ICT needs to solve.

WHAT IS HUMAN-CENTRED DESIGN (HCD)?

Human-Centred Design is an approach to solving problems that involves people, ideally 'end users', in all aspects of the process. By engaging people in identifying the problem and its likely causes, coming up with ideas for possible solutions and then testing and evaluating the ideas, we have a greater chance of developing a robust solution that meets their needs.

STIMULATING POSSIBILITIES
Through researching the lives of education officials and policy makers

+

INCUBATING SOLUTIONS
Through collaboratively generating ideas and prototypes

=

Projects and practices that respond to the needs and ambitions of the education system and are more likely to make a difference

In Human-Centred Design projects, the views and experiences of end users (such as education officials) is vital. Involving them in each stage of a project will help you to test any assumptions you might have, understand more about the underlying causes of issues, bring more creative and fit-for-purpose ideas into the pool of possibilities, and make sure that your project really brings about better outcomes.

SOME KEY PRINCIPLES OF HUMAN-CENTRED DESIGN:

- **Be clear about what you want to learn about**
  In order to make the most of your time with education officials and policy makers, and get the best outcome from any research or design you do with them, make sure you have a clear sense of what you would like to learn. How can they be involved in a way that has the greatest benefit - for the work and for them as humans?

- **Identify the right people**
  When involving education officials and policy makers, think about the types of people that will help you learn the most. Often, inviting quite diverse people to participate can bring about the most useful insights, as gives you a broader 'slice' of users.

- **Listen without judgement**
  It is vital that, when working with people in Human-Centred Design processes, you focus on listening to their thoughts instead of trying to address them or making judgements about their experiences. We must put our opinions to one side and put our effort into understanding their perspectives.

- **Ask great questions**
  At points and in the moment, it will be important to ask questions in order to clarify what you are learning and delve deeply into issues you think need more time. Use open questioning such as 'please can you tell me more about...?' or 'can you tell me more about how that works?'

- **Keep an open mind and trust the process**
  There will be times when what you hear or see is in conflict with what you believe to be true, or what you think is the best strategy to pursue. At points like this we must remember that, although our own experience and knowledge is important, human centred design is a collaborative process in which the views of others are just as valuable. Very rarely are any of these right or wrong - but the Human-Centred Design process itself will help everyone involved to bring these views together and clarify which insights and ideas show the most promise of having the greatest impact for the people you are working on behalf of.

PREPARING FOR INTERVIEWS WITH EDUCATION OFFICIALS AND POLICY MAKERS

In this activity, you will be undertaking some human-centred research education officials and policy makers, in the form of exploratory interviews. The purpose of these interviews is to understand more about their current experiences of people working in the education system, and in some cases their lives beyond work, so that you are able to clearly identify the challenge that ICT solutions need to solve, or opportunities they must respond to.

In order to do this, there are a few things you need to prepare first.

1. **Recruiting research participants:**
   who will you interview and how many education officials and policy makers do you need? Each team member should do an interview with at least one education official and one policy maker. Together, think about your education officials and policy makers: without being too scientific, who might you identify in order to get a broad representation of experiences and capabilities?

2. **Identifying any specific learning goals:**
   over the next pages you will find some interview questions that can help, but there may be some specific things you want to explore that aren't included here. If so, add them in!

RESEARCHING LEARNING CHALLENGES WITH EDUCATION OFFICIALS AND POLICY MAKERS

INTERVIEW GUIDE

INTRODUCTION

Here you will find a series of interview questions and worksheets that can help you undertake some human-centred research with education officials and policy makers, focused on building a picture of their learning capabilities and challenges.

Time: 30 minutes minimum per person

Materials: this guide, pens, post-it notes or extra paper to write or draw on

Protocol: Explain to your interviewee what the purpose of the session is, and the sorts of things you are interested in finding out. There are parts of this guide which you, as the researcher, may wish to hold onto and write/make notes in throughout the course of the interview. There are also some pages that you might like to share with your interviewee or ask them to draw on. Opening up the research materials in this way helps to make their thinking visible, and allows you to ask more questions of them if something makes you curious.

When conducting these interviews, remember the principles of Human-Centred Design: Keeping these in mind will help you gain the richest possible insights!

DRAW YOURSELF

ABOUT ME

NAME:

EDUCATION OFFICIAL OR POLICY MAKER?

DEPARTMENT:

WHO ARE YOUR THREE CLOSEST PROFESSIONAL COLLEAGUES?

WHAT IS YOUR FAVOURITE WORK ACTIVITY:

WHAT DO YOU DREAM FOR EDUCATION IN YOUR COUNTRY?

MOST SIGNIFICANT PROFESSIONAL EXPERIENCE

Thinking about a time when you had the biggest professional experience of your life in or out of your day-to-day work

What was your most significant professional experience?

Who was involved?

Why was it significant? What made it so powerful, on reflection?

What happened?

Where did it happen?

LIFE AT WORK

Describe your working environment in three words:

What does it mean to be successful in your role?

What parts of your role do you find the hardest? Why?

What parts of your work or working environment do you look forward to the most? Why?

How would you describe your relationship with your professional colleagues?

What helps you to do your best work in your role?

What do you enjoy doing outside of work?

WHAT WOULD YOU CHANGE?

If you could change one thing about your role to improve the education system, schooling, learning, and/or teaching, what would it be? Draw it...

What would the benefits of that change be? Draw it...

AMBITIONS FOR THE FUTURE OF STUDENTS IN YOUR COUNTRY

What are the top three skills you think young people will need when they leave school?

1.

2.

3.

On a scale of 1 to 10 with 1 being not at all and 10 being very, how prepared do you think your role helps to achieve these for children? What about your colleagues?

1.

2.

3.

What would make you feel more confident and capable? Or what might your colleagues need to feel the same way you do in these areas?

1.

2.

3.

ANALYSING YOUR FINDINGS

INTRODUCTION

Here you will find a short synthesis activity to help you make sense of what you have learned from your interviews. This activity should be completed as a group, with anyone who interviewed students or teachers.

Time: 1 hour for education official insights, 1 hour for policy maker insights

Materials: your interview notes, this guide, pens, post-its and any other data you have about the education system and the roles of education officials and policy makers in your country

Protocol: The template on the next page can be used as a framework to collectively organise what you have learned from your research, and ideally should be pinned to a wall.

1. Sitting in a circle, each person should tell a brief story (max 5 minutes) about the education official or policy makers they interviewed, starting with a brief description of who they are and what they are like, and then taking the group through what you heard from them in the interview.
2. While one person is talking, everyone else should use post-its to note down any compelling challenges, opportunities, insights and needs they hear.
3. Take 2 minutes for clarifying questions and then, as a group, put your post-it notes onto the framework on the wall; organising according to whether the note represents a challenge, opportunity, insight or need.
4. Repeat the process until everyone has shared their stories
5. Consider any other research evidence being presented - for example, government official surveys - and add insights from these sources onto the wall too.
6. Together, gather around the template on the wall and look at the post-its containing your analysis of the interviews and see if you can group together any notes that deal with similar themes or issues. You might group together post-its that share the same perspective on a topic, and you might also group post-its that address the same topic but take divergent perspectives on it. Put a heading on each group of post-its so it is clear what each group of insights is surfacing.
7. Once all the insights have been grouped, look across the headings and have a group conversation about what has been surfaced. Do these higher level 'key' insights feel right, based on your research, and what you heard from others? Next, you will need to make some decisions about what to focus on.

THE 'COIN' SYNTHESIS FRAMEWORK

CHALLENGES
What makes things difficult? What challenges would they like to solve, and what might we like to solve for them?

OPPORTUNITIES
What is working well? What could be made better? What motivations or ambitions can we build from?

INSIGHTS
What challenges our assumptions? What gives us clues about new approaches or possibilities?

NEEDS
What do people say they need? What do we think they might need? What needs aren't being met?

PRIORITISED PROBLEMS
From your COIN synthesis, consider, what are the key and most important problems related to:

SYSTEM OUTCOMES
What are the key challenges and opportunities related to the education system outcomes?

SYSTEM ENVIRONMENT
What are the key challenges and opportunities related to education system environments?

DISCONTINUING THE PROCESS

If ICT does not provide the opportunity to solve these problems, or isn't relevant, this is the point at which you should discontinue this process.

This might be because:

- You do not yet have a vision for the education system in place and technology can't help you solve for this.
- There are too many competing priorities and you won't be able to dedicate enough time to properly understanding your system needs, auditing capability, undertaking an iterative process to test (prototype) possible ICT solutions before developing a proposal for action and case.

Before moving on to Step 2 of this process, the group that has been involved in understanding more about the challenges and opportunities of ICT4Learning should have a final review discussion and make a decision as to whether they will continue/discontinue with the process.

STEP 2: Tool 4

EDUCATION OFFICIALS ICT QUESTIONNAIRE

Aligned to Domain 7 – Enabling Environment

Who should use this:

Education official

Group or individual:

Individual then group

Print size:

A4 for Questionnaire

Informed by:

The European Framework for the Digital Competence of Educators (DigCompEdu)

Instructions for use

Ask education officials to complete the questionnaire individually. Ideally, you would administer the questionnaire to each education official in your ministry.

EDUCATION OFFICIAL ACCESS, EXPERIENCE AND USE AND VISION

Education Official Questionnaire

A questionnaire designed to understand education officials' use of technology and the Internet, at work and outside of work.

USING THE DIGITAL GOVERNMENT OFFICIAL QUESTIONNAIRE

INSTRUCTIONS FOR GOVERNMENT OFFICIALS

- Have all government officials complete their individual questionnaires by checking one box per category:
  - For example, under "Access", for mobile phones at home, government officials should select 1 of 3 responses: "No" or "Yes, without internet" or "Yes, with internet".
- Ensure that the "Number of government officials responding" on the "Government Data Input" page is equal to the "Total Number of Responses" under each category of question:
  - If they are not equal, the "Total Number of Responses" will turn red.
  - If the "Total Number of Responses" is red, use the totals under each question sub-category to find which sub-question is missing a response. Then go through the questionnaires to find which government official missed the response. Ensure that the government official responds to the questionnaire properly.
- Averages for each question on the "Government Summary" and "Government Official Score Card" will be calculated automatically and do not need to be adjusted.

EDUCATION OFFICIAL QUESTIONNAIRE

NAME OF COUNTRY :

In this questionnaire you will find questions about yourself and your use of computers and the internet at work and out of work. Some questions ask for facts while others ask for your opinions.

All responses are anonymous and treated in the strictest confidence; no individual or department will be identifiable in the published reports.

INSTRUCTIONS FOR USE

- Read each question carefully and answer as accurately as possible.
- Ask for clarification if you do not understand something or are not sure how to respond.
- Each question is followed by a number of possible answers. In some cases, only one answer has to be chosen, in others, you can choose several.
- For each question, read carefully the indications on the number of possible choices and then click accordingly on the box(es) next to the answer of your choice.

ABOUT ME

Age:

Number of years of government working experience:

Gender

ACCESS

Which of the following are available for you to use easily at home, in the community (e.g. at friends' or family member's home, in a public library or an Internet café) and at work.? Tick as applies.

	HOME			COMMUNITY			WORK		
	No	Yes, without internet	Yes, with internet	No	Yes, without internet	Yes, with internet	No	Yes, without internet	Yes, with internet
Mobile phone	○	○	○	○	○	○	○	○	○
Computer (desktop, laptop, etc)	○	○	○	○	○	○	○	○	○
Tablet (Netbook, mini notebook, etc)	○	○	○	○	○	○	○	○	○
Other media	○	○	○	○	○	○	○	○	○

EXPERIENCE AND USE : How often do you do the following?

	HOME				WORK			
	Never	Once in a month	Once a week	More than once a week	Never	Once in a month	Once a week	More than once a week
Sending and reading email messages	○	○	○	○	○	○	○	○
Searching different sources online for information and learning about a particular topic you're interested in	○	○	○	○	○	○	○	○
Use Microsoft Office software (Word, Spreadsheet, Powerpoint)	○	○	○	○	○	○	○	○

In delivering lessons, how often do you do the following?

	Never	Once in a month	Once a week	More than once a week
Use digital technologies (e.g. interactive whiteboards)	○	○	○	○
Incorporate learner-led digital activities (e.g. presentations)	○	○	○	○

How often do you do the following with regard to professional learning and development?

	Never	Once in a month	Once a week	More than once a week
Participate actively in online communities or forums?	○	○	○	○
Participate in online courses or programmes	○	○	○	○
Career advancement (e.g. search for jobs online, upload and update your profile on job websites)	○	○	○	○

Vision for ICT

Ideally, how would you like to use ICT in your work? Consider what would benefit both you and your colleagues across the education system.

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE

EDUCATION OFFICIAL CAPABILITY

Making sense of the data

The following protocol may be helpful in cleaning and analysing the data you receive from the education official questionnaire:

1. Enter the data (if the paper questionnaires were completed)
2. Clean the data
3. Analyse the data
4. Present the data

EDUCATION OFFICIAL QUESTIONNAIRE

1. ENTER THE DATA

It's important that you standardise the point of entry and check the importance of it. By standardising your data process, you will ensure a good point of entry and reduce the risk of duplication.
You might like to use a programme such as Microsoft Excel (or equivalent).

2. CLEAN THE DATA

Data cleaning is the process of ensuring that your data is correct, consistent and usable.
In order to clean the data, you need to identify errors in data entry and any duplicates, since this will help you save time when analysing data.

3. ENTER THE DATA

The results obtained through the analysis process are intended to suggest conclusions and support decision-making. Sorting data is an integral part of data analysis. Sorting data helps you quickly visualise and understand your data better and organise and find the data that you want. This will enable you to group, tally/total and summarise data. If using Microsoft Excel, the Quick Analysis tool makes it possible to analyse your data quickly and easily using different Excel tools.

4. PRESENT THE DATA

Although there are many ways to communicate your data, charts are often used to depict data pictorially. Charts highlight the notable points in the data so that your audience can quickly grasp what you want to project in the data. If using Microsoft Excel, charts can be used to make a graphical representation of any set of data. You also may like to summarise your findings as per the following:

DISTRICT NAME:

DATA SUMMARY

ACCESS:

At home, our education officials can...
(complete this sentence)

In the community, our education officials can...
(complete this sentence)

At work, our education officials can...
(complete this sentence)

EXPERIENCE AND USE:

Our education officials are most likely to use ICT to...
(complete this sentence)

Our education officials often use...
(complete this sentence)

for professional learning and development.

The major difference between ICT use in the home and at work for our education officials is...
(complete this sentence)

The ICT vision of our education officials is...
(complete this sentence)

Our education officials use...
(complete this sentence)

most frequently at work.

Considering the results of the survey, how would you assess the ICT capability of education officials in your office:

STEP 2: Tool 5
GOVERNMENT ICT INFRASTRUCTURE AUDIT
Aligned to Domain 5 – Technological Infrastructure

Who should use this:
Education official

Group or individual:
Group

Print size:
A4

Informed by:
SABER

Instructions for use

- Please provide feedback on the availability of the resources listed.
- If you are describing a single department or office, think about the use of technology across different departments. For multiple departments, provide an idea of the number of departments that fall into each category.

TECHNOLOGICAL INFRASTRUCTURE: GOVERNMENT ICT INFRASTRUCTURE AUDIT AND PLANNING

Maturity Matrix to identify available infrastructure on site

Teams will be asked to provide a brief description and context of the levels of infrastructure already in place in sites.

Prerequisite:
Complete Step 1 to identify the 2 key learning challenges you wish to address with ICT. Keep these in mind as you audit and plan for your site's infrastructure.

USING THE DIGITAL INFRASTRUCTURE AUDIT

INSTRUCTIONS FOR GOVERNMENT OFFICIALS

- Have government officials collectively complete the questionnaire by checking one box per category:
  - *For example, under "ICT Basic Infrastructure", government officials should select 1 of 4 responses: "Not at all" or "Emerging" or "Established" or "Advanced".*
- Averages for each question on the "Infrastructure Summary" and "Infrastructure Score Card" will be calculated automatically and do not need to be adjusted.

A. AUDIT

SCALE (KINDLY PROVIDE BRIEF DESCRIPTIONS FOR EACH CHARACTERISTIC)				
Characteristic	**Not at all**	**Emerging/Low level and patchy (unreliable)**	**Established/Mid-level and reasonable consistency**	**Advanced/High level, comprehensive and embedded**
1. ICT Basic Infrastructure				
1.1 Buildings and furniture related to ICT use e.g. computes for workers	○	○	○	○
1.2 Reliable connectivity and network infrastructure offices e.g. Broadband, Wireless, LAN.	○	○	○	○
1.3 Power; electricity/solar and backups	○	○	○	○
1.4 Operating systems and licensing for devices and content	○	○	○	○
1.5 Physical safety (lockable storage, guards, alarms)	○	○	○	○
1.6 Virtual security (antivirus software and firewalls)	○	○	○	○
1.7 Operational maintenance and support plan	○	○	○	○

A. AUDIT

SCALE (KINDLY PROVIDE BRIEF DESCRIPTIONS FOR EACH CHARACTERISTIC)				
Characteristic	**Not at all**	**Emerging/Low level and patchy (unreliable)**	**Established/Mid-level and reasonable consistency**	**Advanced/High level, comprehensive and embedded**
2. Employee-centric Hardware and Software				
2.1 Access devices e.g. handheld devices, desktops, laptops, tablets	○	○	○	○
2.2 Display devices e.g. projectors	○	○	○	○
2.3. Professional development content; access to online courses	○	○	○	○
2.4 Online technical support mechanisms and networks for in-coming employees.	○	○	○	○
2.5 Management support e.g. budget management systems, digital timetabling, attendance and assessment software.	○	○	○	○

A. AUDIT

SCALE (KINDLY PROVIDE BRIEF DESCRIPTIONS FOR EACH CHARACTERISTIC)				
Characteristic	**Not at all**	**Emerging/Low level and patchy (unreliable)**	**Established/Mid-level and reasonable consistency**	**Advanced/High level, comprehensive and embedded**
3. Employee Professional Development				
3.1 Participate in blended learning courses (combination of online and face-to-face training)	○	○	○	○
3.2 Take part in online professional development courses and forums	○	○	○	○
3.3 Mentoring and follow-up support	○	○	○	○

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE

B. COSTING

Instructions for filling the Costing Table:

For each of the cost elements listed in the table, indicate the following:

1. Cost for full functionality: this refers to how much it would cost to have your ICT infrastructure running and maintained. For each of the cost elements, input costs of having them operating fully and at maximum capacity.
2. Existing budget: this refers to the current funds allocated to your ICT infrastructure. For each of the cost elements, input the current funds available for use from your budget.
3. Budget Gap: this refers to the deficit costs for your ICT infrastructure. For each of the cost elements, calculate this by deducting the 'Existing budget' from the 'Cost for full functionality'. This will give you an indication of funds still needed to get your ICT infrastructure on track and running.

NB: You will need the Budget Gap figures when developing your Proposal for Action in Step 4.

B. COSTING

COSTING CONSIDERATIONS						
Cost elements	Cost for full functionality		Existing budget		Budget Gap	
	Capital	Recurrent	Capital	Recurrent	Capital	Recurrent
1. ICT Basic Infrastructure						
1.1 Buildings and furniture related to ICT use e.g. computes for workers						
1.2 Reliable connectivity and network infrastructure offices e.g. Broadband, Wireless, LAN.						
1.3 Power; electricity/solar and backups						
1.4 Operating systems and licensing for devices and content						
1.5 Physical safety (lockable storage, guards, alarms)						
1.6 Virtual security (antivirus software and firewalls)						
1.7 Operational maintenance and support plan						
TOTAL						

B. COSTING

COSTING CONSIDERATIONS						
Cost elements	Cost for full functionality		Existing budget		Budget Gap	
	Capital	Recurrent	Capital	Recurrent	Capital	Recurrent
2. Employee-centric Hardware and Software						
2.1 Access devices e.g. handheld devices, desktops, laptops, tablets						
2.2 Display devices e.g. projectors						
2.3. Professional development content; access to online courses						
2.4 Online technical support mechanisms and networks for incoming employees.						
2.5 Management support e.g. budget management systems, digital timetabling, attendance and assessment software.						
TOTAL						

B. COSTING

COSTING CONSIDERATIONS						
Cost elements	**Cost for full functionality**		**Existing budget**		**Budget Gap**	
	Capital	**Recurrent**	**Capital**	**Recurrent**	**Capital**	**Recurrent**
3. Employee Professional Development						
3.1 Participate in blended learning courses (combination of online and face-to-face training)						
3.2 Take part in online professional development courses and forums						
3.3 Mentoring and follow-up support						
TOTAL						

STEP 2: Tool 6
GOVERNMENT ICT ECOSYSTEM AUDIT
Aligned to Domain 9 - Coalitions

Who should use this:
Education official

Group or individual:
Group

Print size:
A3

Adapted from:
Development Impact & You (DIY) Toolkit
The World Bank Annual Report 2018

Resources you'll need:

Post-it notes
Chart paper

COALITIONS: KNOW THE PEOPLE YOU'RE WORKING WITH

People and Connections Map

This tool guides you in identifying various stakeholders you are working with and their role in your ICT implementation.

There are two options available for use:

1. **Online:** Roots Systems Mapping: this visualises systems in terms of nodes and linkages. Nodes are the individual actors within the system, and linkages are the interrelationships between those actors. **Online: Roots System**

2. **Offline:** Coalition Mapping: a paper-based system that enables users to identify stakeholders they are engaging for their ICT for learning strategy. **Offline: Coalition Mapping**

INSTRUCTIONS FOR USE

Coalition Mapping:

- In your teams, start by noting down your target audience, including beneficiaries, users or groups who would benefit from your work, in the centre of the worksheet. From the centre start mapping people and organisations that you are closely engaging for implementing or delivering your ICT work. Then, on the outer circle, map people and organisations you are currently engaging, but not as close as your inner circle.
- Once the worksheet has been filled, go through each person and organisation on the map with your team and, if necessary, reposition them into the circle and section that the team agrees fits most. This review will give you a useful starting point to discuss which relationships or connections are key, and which may need extra attention.

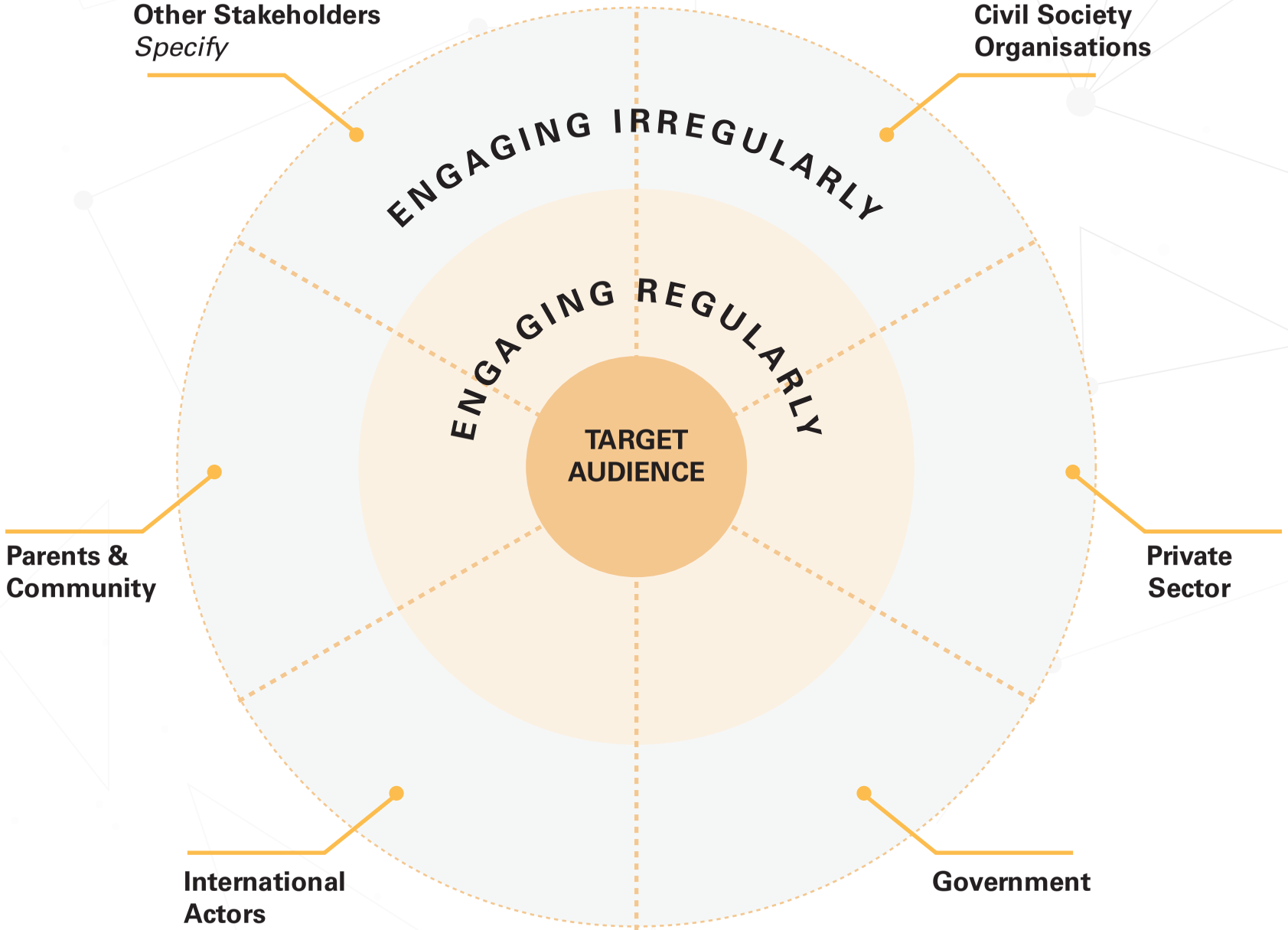
Role:

- Fill in the table with brief notes on the support your stakeholders can provide to you as you implement your ICT for learning. Think about the stakeholders you have identified as key actors in your ICT work (in the Coalition Mapping exercise) and discuss which domain(s) you think they are most suited to support you in. In what way would they support you?

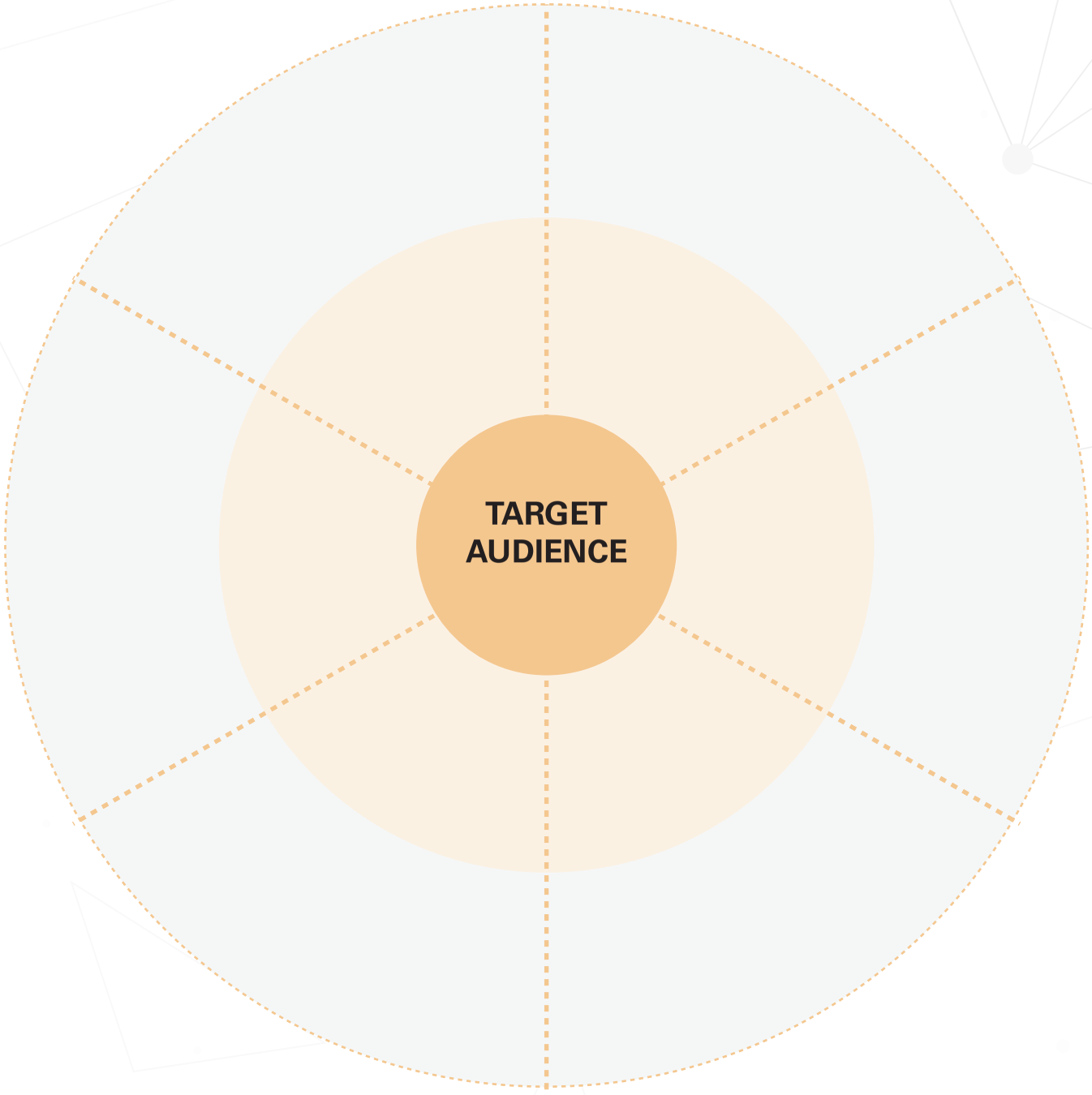
NB: *Keep the stakeholders you identify and their role in mind as you move to Step 3 and develop your 'Scorecard' and your 'Prototype for Action'.*

COALITION MAPPING ▸

COALITION MAPPING



COALITION MAPPING



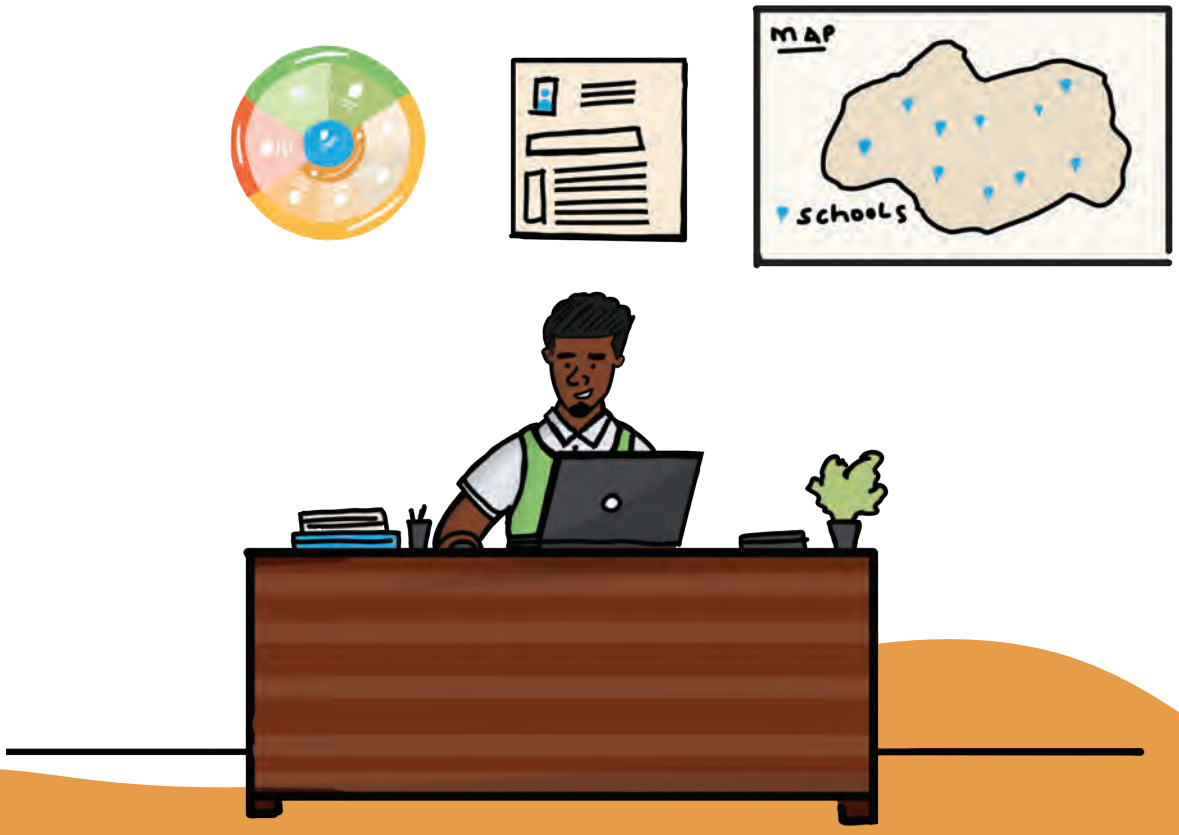
ROLE

Domain	Stakeholder (pick)	Notes on support provided (per stakeholder identified)
Employee Capability	1. CSOs 2. Private Sector 3. Government 4. International actors 5. Parents and community 6. Others (specify)	
ICT Infrastructure	1. CSOs 2. Private Sector 3. Government 4. International actors 5. Parents and community 6. Others (specify)	
ICT Funding Resources	1. CSOs 2. Private Sector 3. Government 4. International actors 5. Parents and community 6. Others (specify)	

Online: Roots System

1. An online systems mapping platform ***(www.mypando.org)***
2. Supports visualisation and understanding of relationships within complex dynamic systems

STEP 2: Tool 7a
DISTRICT ICT FOR LEARNING SCORECARD
Aligned to Domain 6 – Implementation and Change



Who should use this:
Education official

Group or individual:
Group

Print size:
A4

Developed by:
Innovation Unit and AKF for UNICEF

Instructions for use:

- Collect completed School Scorecards from all relevant schools
- Complete the District Scorecard utilising the results from the School Scorecard

LINKING VOLUME I AND VOLUME II

It is very difficult for national and sub-national government officials to engage many teachers and students. This is much easier at the school level. Therefore, to ensure 'Teacher and Student Agency' in the national and sub-national ICT for Learning process, the tools have been designed to enable the sub-national government to aggregate the school level data for all participating schools in their district and then the national government to aggregate the data for all participating schools and districts nationally.

More details are provided in Tool 7a and 7b, but, in brief, all the data collected by participating schools through the tools in Step 2 of Volume I are inputted into 'Tool 7 – School ICT for Learning Scorecard'. This scorecard provides an inclusive view of each school's current ICT capability and includes data on:

- **Student ICT Capability**
- **Teacher ICT Capability**
- **School ICT Infrastructure**
- **School ICT Ecosystem Audit**

The sub-national government will be able to collect all these School ICT for Learning Scorecards (Tool 7 of Volume I) and insert the data into their District Scorecard, Tool 7a (Volume II). This will then aggregate the school data and provide an average for the schools in their district.

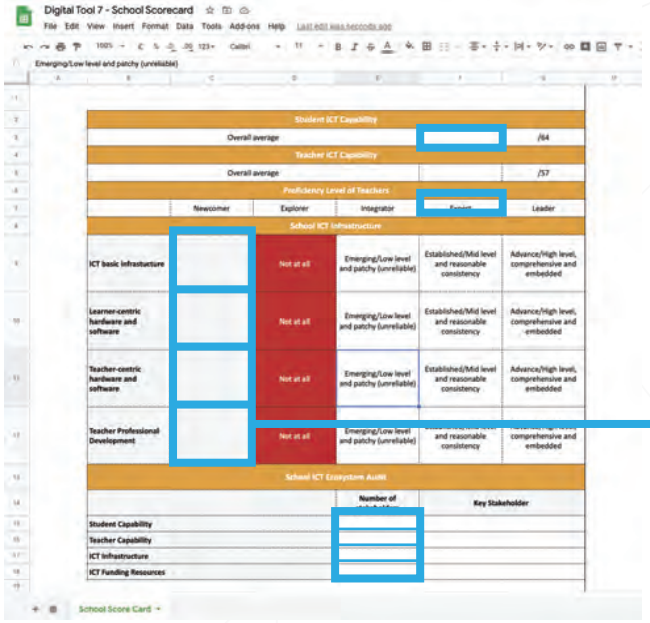
The national government will be able to collect all the District ICT Scorecards (Tool 7a) and insert the data aggregated school data and sub-national data into their National Scorecard (Tool 7b). This will then aggregate all the school and sub-national government data to provide a national average for all schools and sub-national offices in the country.

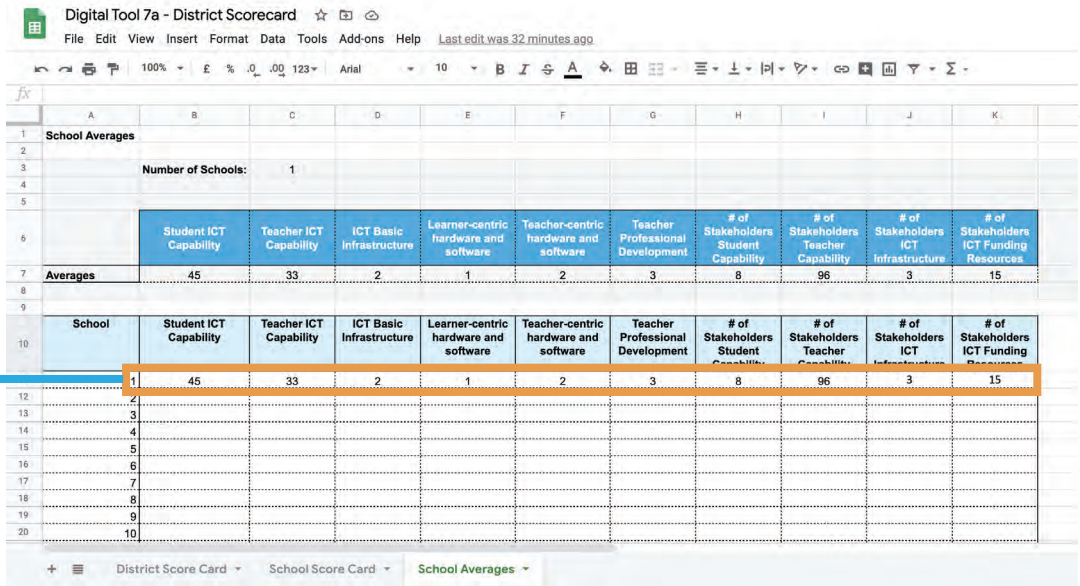
One approach for collecting data for national or sub-national analysis will be collecting on the basis of a representative sample. Thus, the tools in Step 2 of Volume I can be distributed to a sample of teachers and schools for collection through established systems. Alternatively, as part of the national or sub-national process, an enumerator team can be sent to a representative sample of schools and teachers to get the data in a reliable and valid approach.

USING THE DIGITAL DISTRICT SCORECARD

INSTRUCTIONS FOR REGIONAL MINISTRY OF EDUCATION

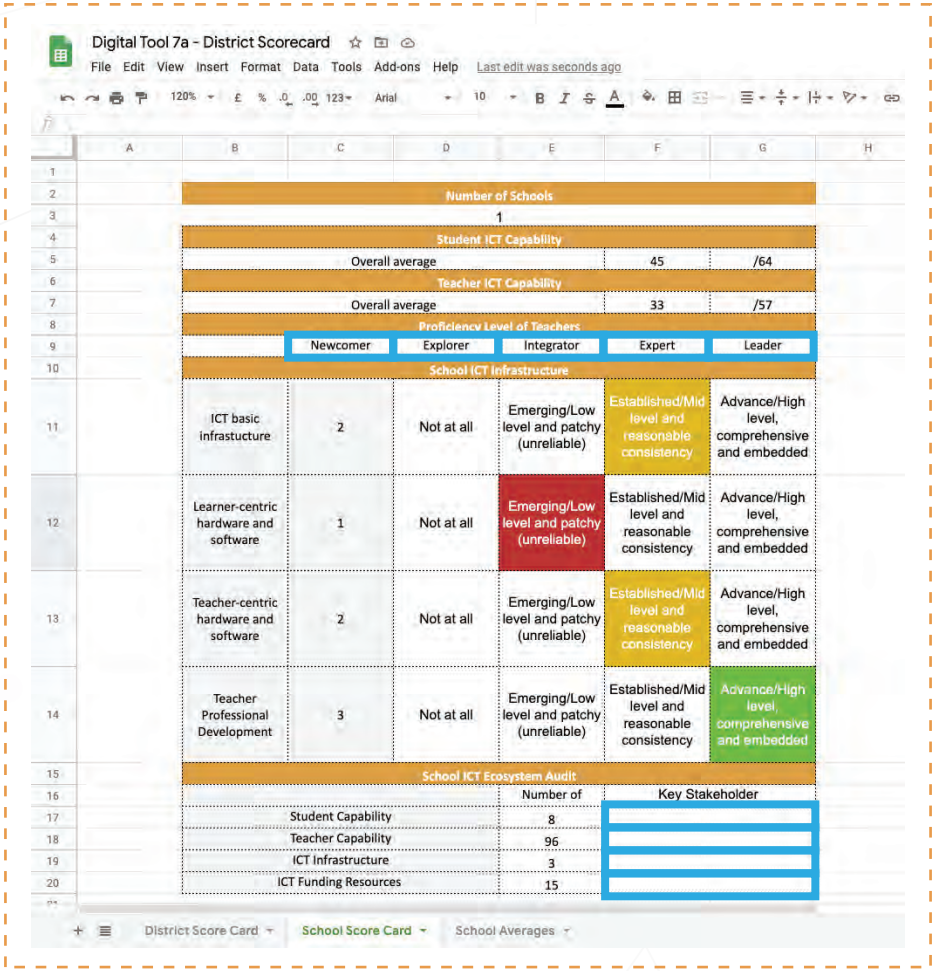
Collect all completed School Scorecards from all participating schools in your district





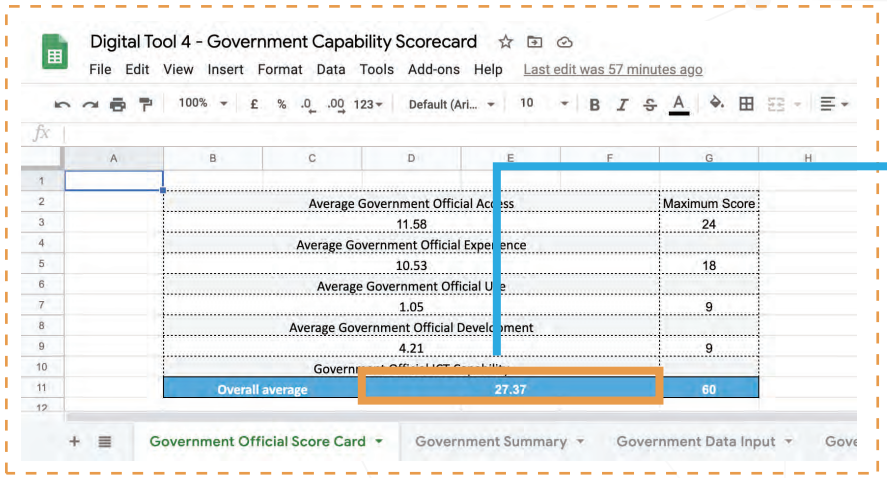
CALCULATING SCHOOL AVERAGES

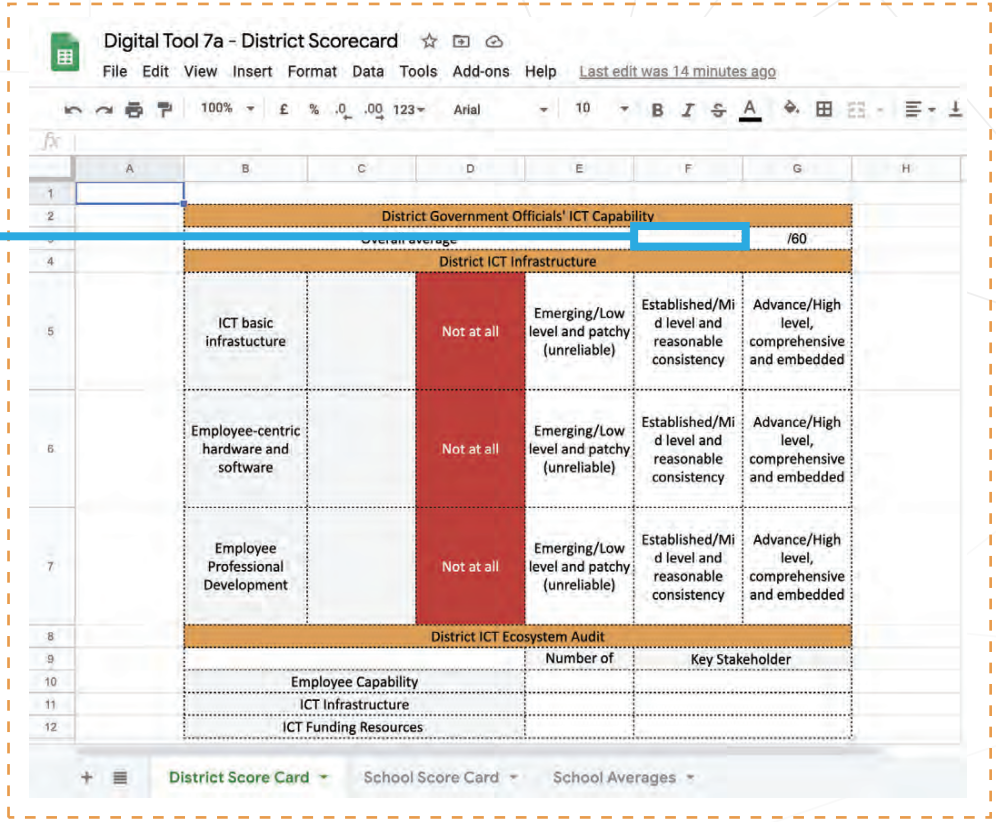
Add the scores of the Student ICT Capability, Teacher ICT Capability, School ICT Infrastructure, and School ICT Ecosystem from each Digital Tool 7 School Scorecard (Volume I) to the relevant row on the Digital Tool 7a School Averages sheet



CALCULATING SCHOOL AVERAGES

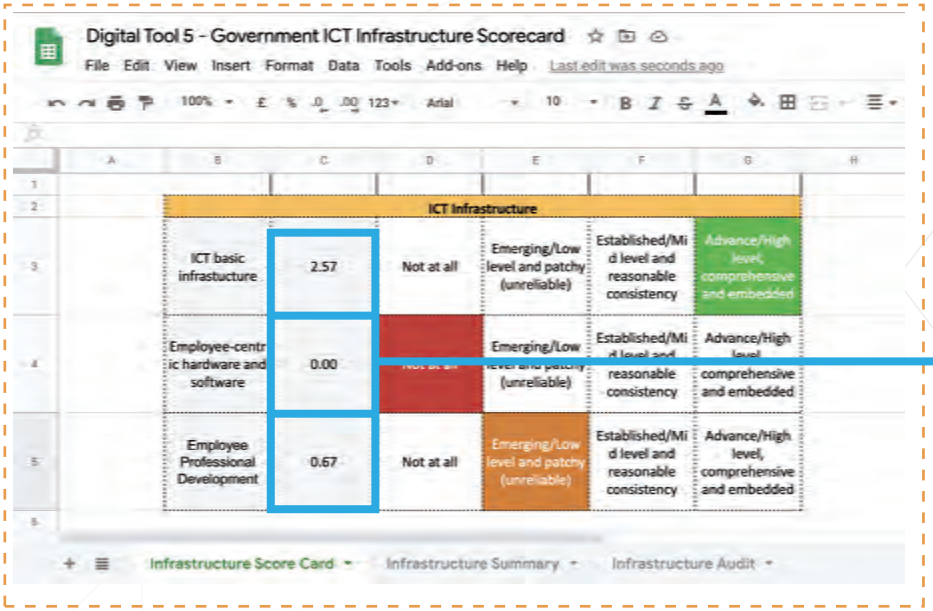
- All averages will automatically be calculated on the School Score Card sheet for the district
- Add Teacher Proficiency Level and Key Stakeholders from each Digital Tool 7 School Scorecard (Volume I) to the Digital Tool 7a School Score Card

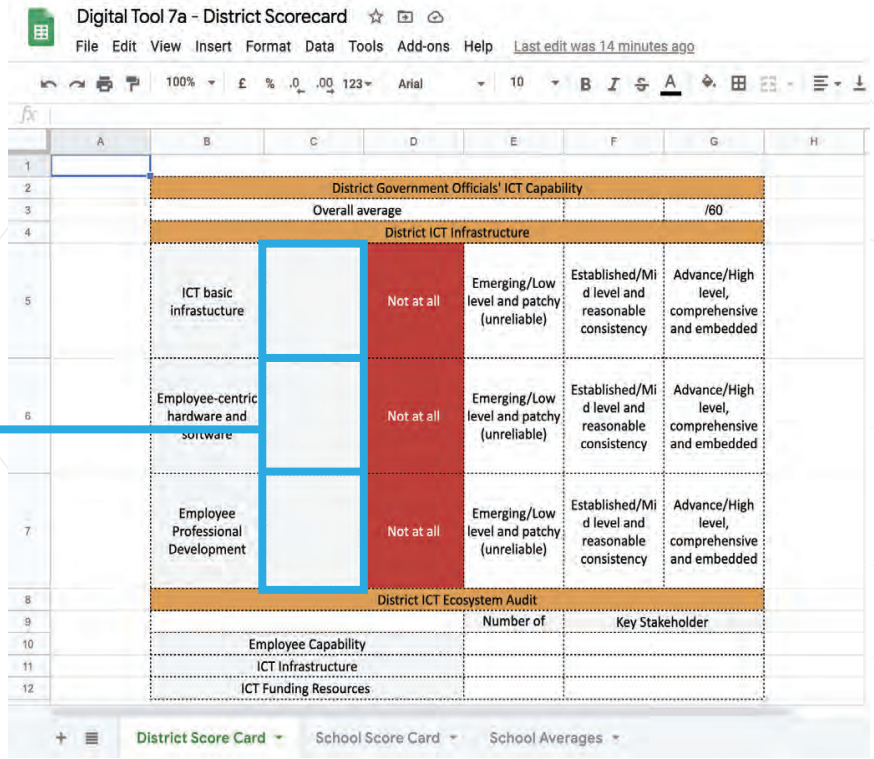




DISTRICT GOVERNMENT OFFICIAL'S ICT CAPABILITY

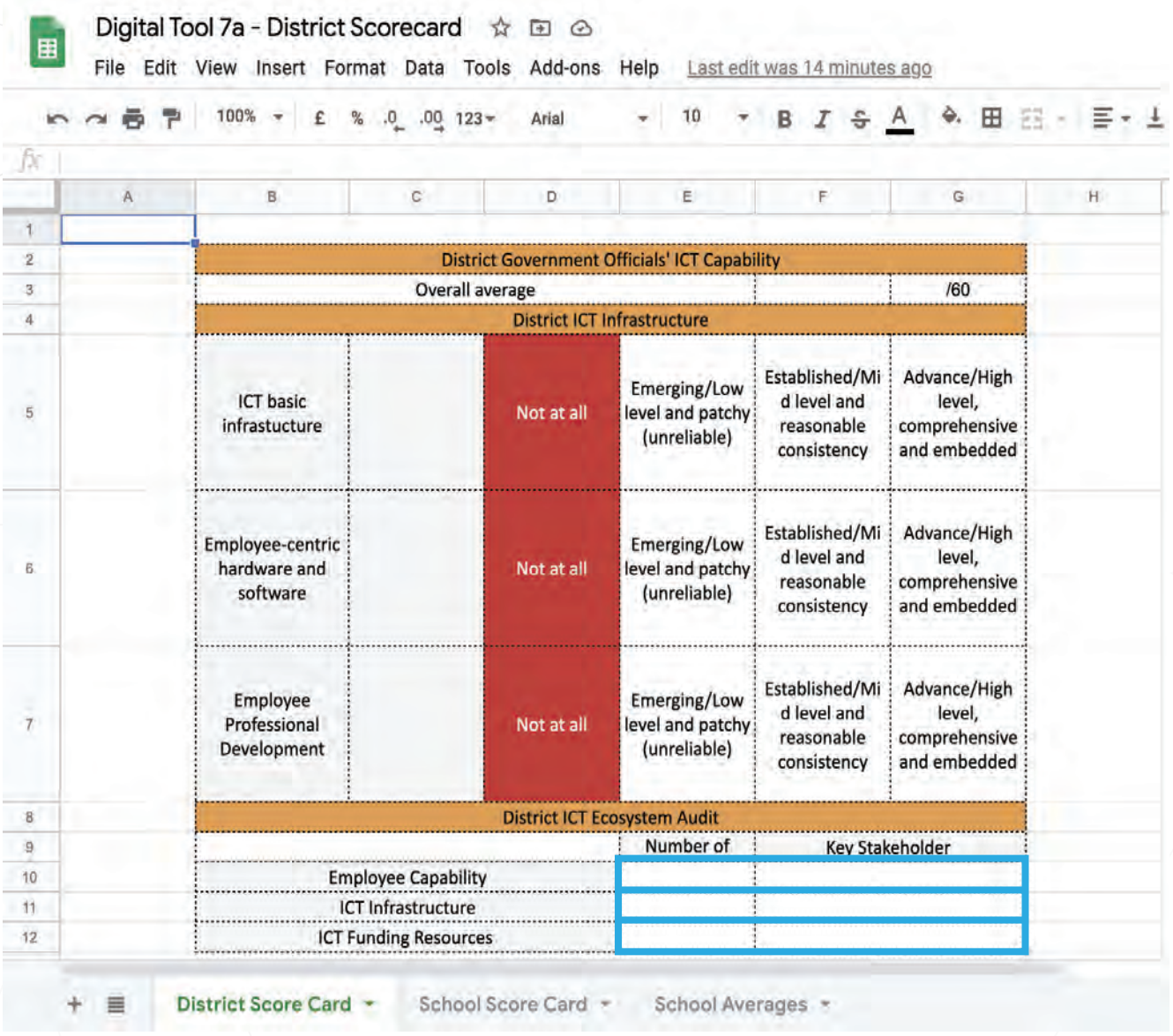
Take score from Digital Tool 4, D11 and put in Digital Tool 7a District Score Card, F3





DISTRICT ICT INFRASTRUCTURE

Take score from Digital Tool 5, C3-5 and put in Digital Tool 7a District Score Card, C5-7



Digital Tool 7a - District Scorecard

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	District Government Officials' ICT Capability					
	Overall average					/60
	District ICT Infrastructure					
	ICT basic infrastucture		Not at all	Emerging/Low level and patchy (unreliable)	Established/Mid level and reasonable consistency	Advance/High level, comprehensive and embedded
	Employee-centric hardware and software		Not at all	Emerging/Low level and patchy (unreliable)	Established/Mid level and reasonable consistency	Advance/High level, comprehensive and embedded
	Employee Professional Development		Not at all	Emerging/Low level and patchy (unreliable)	Established/Mid level and reasonable consistency	Advance/High level, comprehensive and embedded
	District ICT Ecosystem Audit					
				Number of	Key Stakeholder	
	Employee Capability					
	ICT Infrastructure					
	ICT Funding Resources					

District Score Card | School Score Card | School Averages

DISTRICT ICT ECOSYSTEM

Take data from Tool 6 and put in Digital Tool 7a District Score Card, E10-12

STEP 2: Tool 7B
NATIONAL ICT FOR LEARNING SCORECARD
Aligned to Domain 6 – Implementation and Change

Who should use this:
Education official

Group or individual:
Group

Print size:
A4

Developed by:
Innovation Unit and AKF for UNICEF

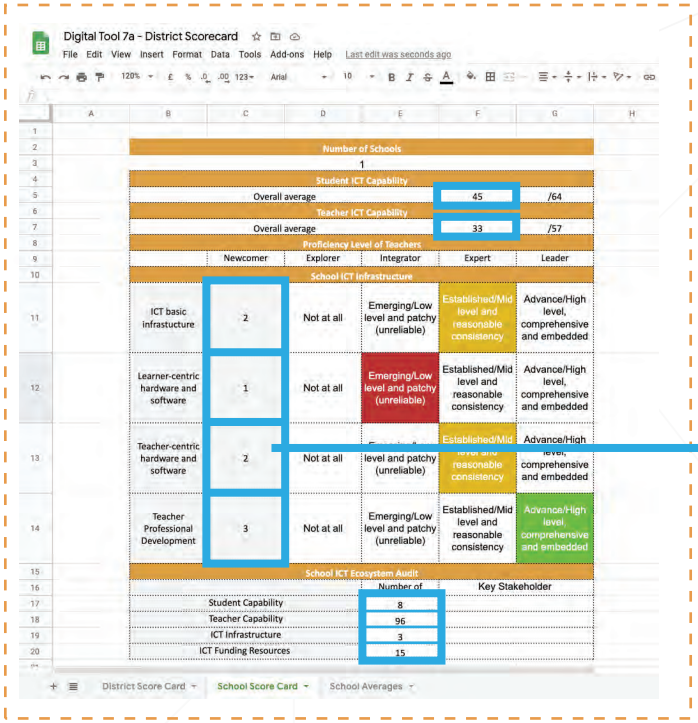
Instructions for use:

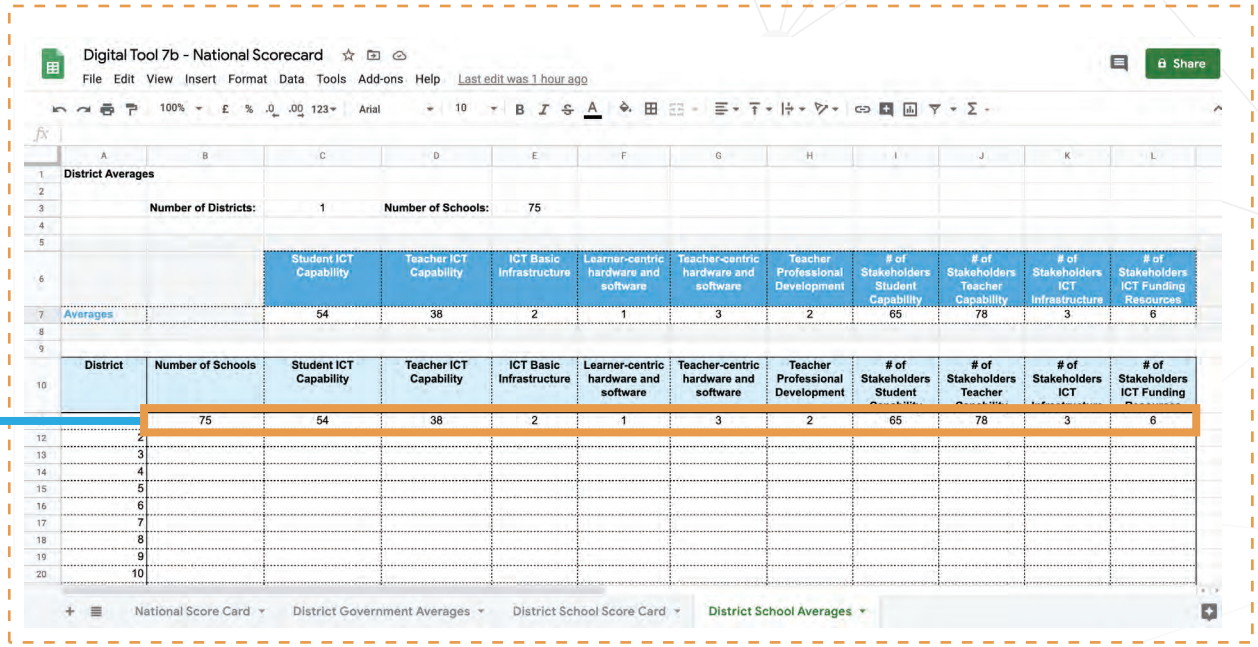
- Collect completed District Scorecards from all relevant districts
- Complete the National Scorecard utilising the results from the District Scorecard

USING THE DIGITAL NATIONAL SCORECARD

INSTRUCTIONS FOR NATIONAL MINISTRY OF EDUCATION

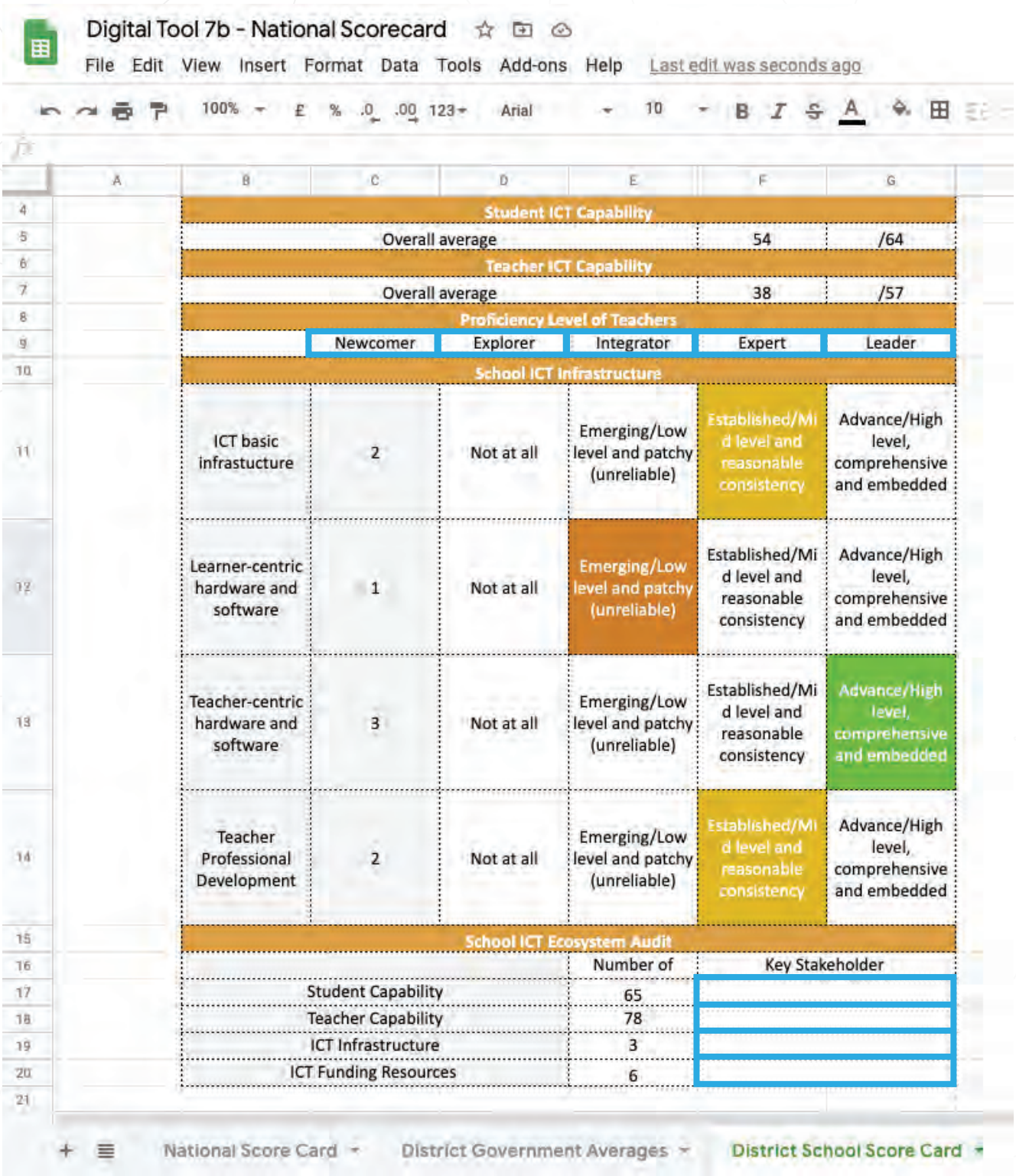
- Collect all completed District Scorecards from all participating districts
- Use Digital Tool 7a from each participating district to fill out Digital Tool 7b National Scorecard





CALCULATING DISTRICT SCHOOL AVERAGES

Add the scores of Student ICT Capability, Teacher ICT Capability, School ICT Infrastructure, and School ICT Ecosystem from each Digital Tool 7a District Scorecard to the relevant row on the Digital Tool 7b District School Averages sheet



Digital Tool 7b - National Scorecard

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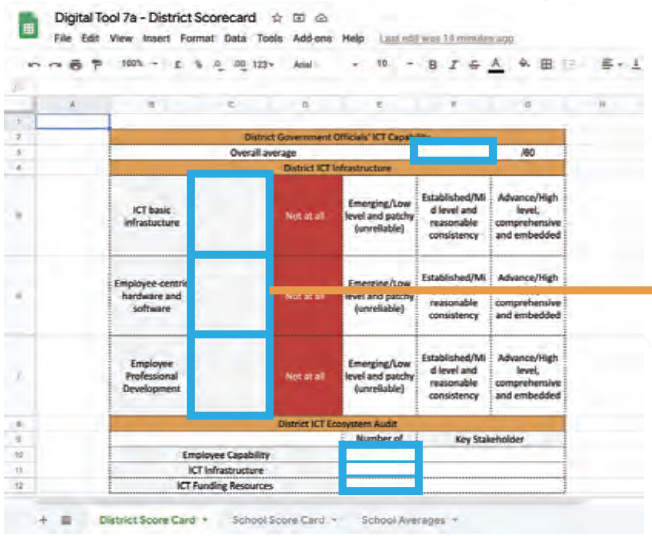
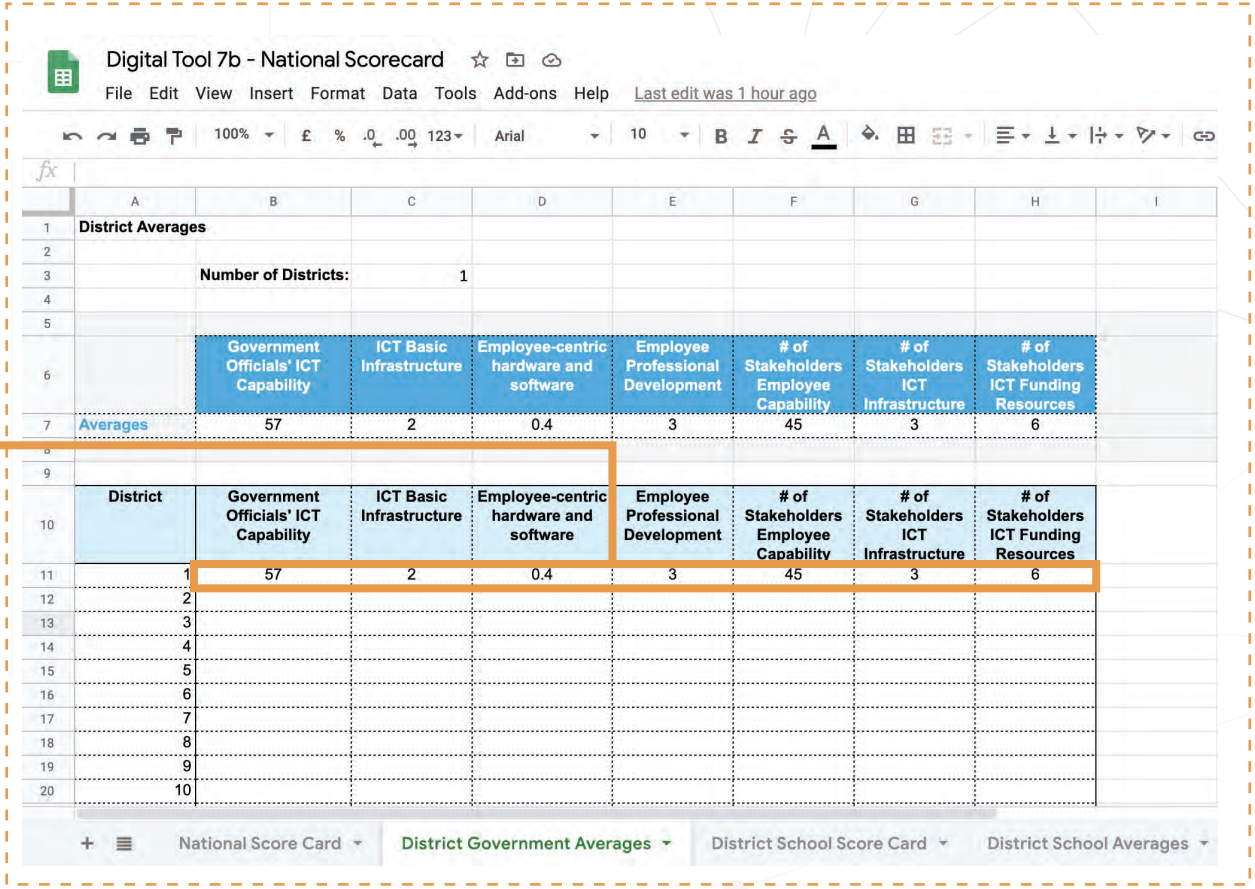
Student ICT Capability					
Overall average				54	/64
Teacher ICT Capability					
Overall average				38	/57
Proficiency Level of Teachers					
	Newcomer	Explorer	Integrator	Expert	Leader
School ICT Infrastructure					
ICT basic infrastucture	2	Not at all	Emerging/Low level and patchy (unreliable)	Established/Mid level and reasonable consistency	Advance/High level, comprehensive and embedded
Learner-centric hardware and software	1	Not at all	Emerging/Low level and patchy (unreliable)	Established/Mid level and reasonable consistency	Advance/High level, comprehensive and embedded
Teacher-centric hardware and software	3	Not at all	Emerging/Low level and patchy (unreliable)	Established/Mid level and reasonable consistency	Advance/High level, comprehensive and embedded
Teacher Professional Development	2	Not at all	Emerging/Low level and patchy (unreliable)	Established/Mid level and reasonable consistency	Advance/High level, comprehensive and embedded
School ICT Ecosystem Audit					
			Number of	Key Stakeholder	
Student Capability			65		
Teacher Capability			78		
ICT Infrastructure			3		
ICT Funding Resources			6		

National Score Card | District Government Averages | District School Score Card

CALCULATING DISTRICT AVERAGES

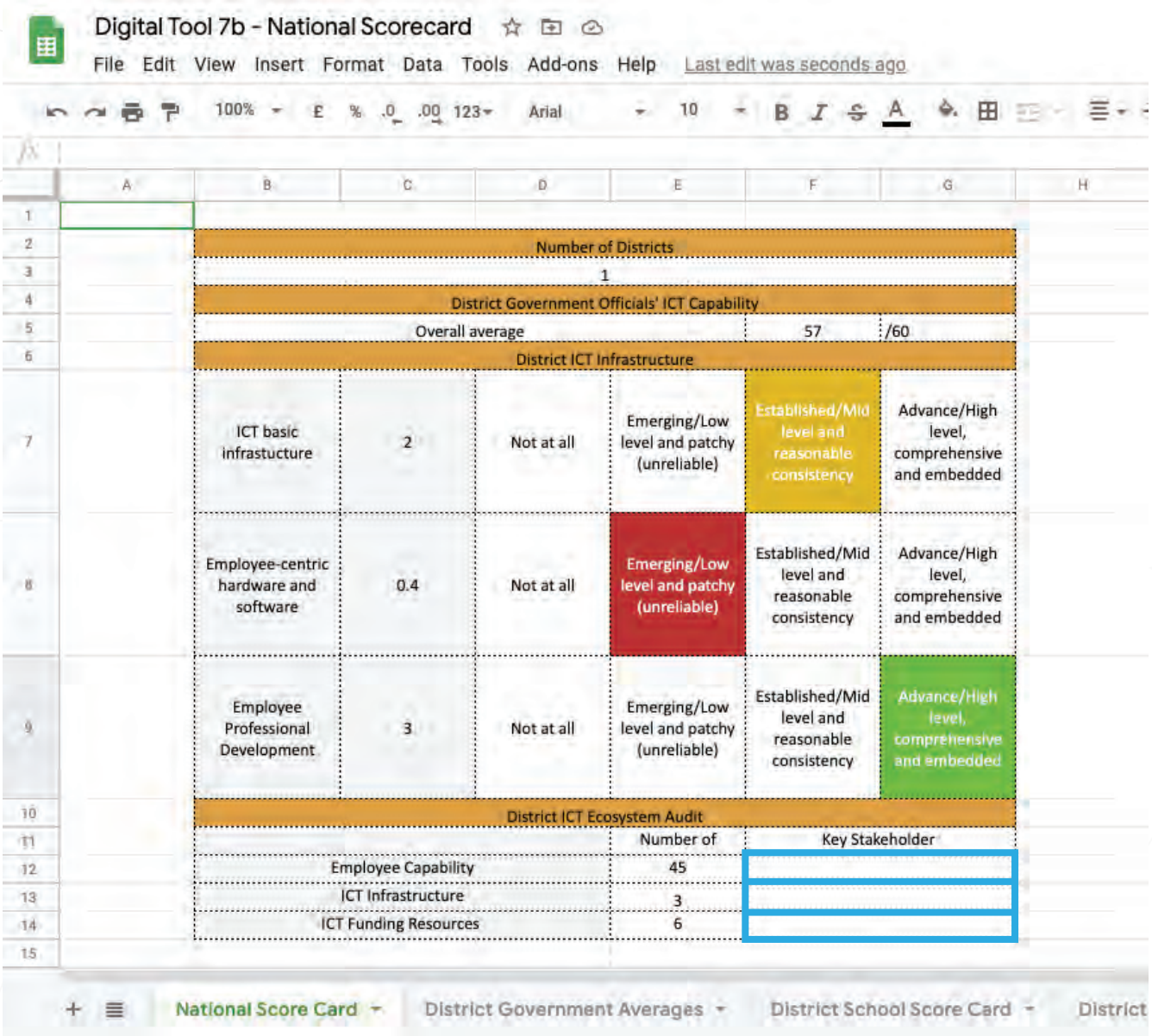
- All averages will automatically be calculated on the District School Score Card sheet
- Add Teacher Proficiency Level and Key Stakeholders from each Digital Tool 7a School Scorecard to the Digital Tool 7b District School Score Card





CALCULATING DISTRICT GOVERNMENT AVERAGES

Add the scores of the Government Officials' ICT Capability, District ICT Infrastructure, and District ICT Ecosystem Audit from each Digital Tool 7a District Score Card to the relevant row on the Digital Tool 7b District Government Averages sheet



Digital Tool 7b - National Scorecard

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Number of Districts						
1						
District Government Officials' ICT Capability						
Overall average					57	/60
District ICT Infrastructure						
ICT basic infrastucture	2	Not at all	Emerging/Low level and patchy (unreliable)	Established/Mid level and reasonable consistency	Advance/High level, comprehensive and embedded	
Employee-centric hardware and software	0.4	Not at all	Emerging/Low level and patchy (unreliable)	Established/Mid level and reasonable consistency	Advance/High level, comprehensive and embedded	
Employee Professional Development	3	Not at all	Emerging/Low level and patchy (unreliable)	Established/Mid level and reasonable consistency	Advance/High level, comprehensive and embedded	
District ICT Ecosystem Audit						
			Number of	Key Stakeholder		
Employee Capability			45			
ICT Infrastructure			3			
ICT Funding Resources			6			

National Score Card | District Government Averages | District School Score Card | District

CALCULATING DISTRICT AVERAGES

- All averages will automatically be calculated on the National Score Card sheet
- Add Key Stakeholders from each Digital Tool 7a District Score Card to the Digital Tool 7b National Score Card

STEP 3: Tool 8
PROTOTYPE FOR ACTION
Aligned to Domain 6 – Implementation and Change

Who should use this:
Education officer

Group or individual:
Group

Print size:
A4

Developed by:
Innovation Unit and AKF for UNICEF

Resources you'll need:

IMPLEMENTATION & CHANGE:

ADVANCING ICT FOR LEARNING THROUGH PROTOTYPING & ITERATION

By engaging people in identifying the problem and its likely causes, coming up with ideas for possible solutions and then testing and evaluating the ideas, we have a greater chance of developing a robust solution that meets their needs.

Steps 1 and 2

STIMULATING POSSIBILITIES
Through researching the lives of education officials and policy makers

+

INCUBATING SOLUTIONS
Through collaboratively generating ideas and prototypes

=

Step 3

Projects and practices that respond to the needs and ambitions of education officials and policy makers, and are more likely to make a difference

PROTOTYPE FOR ACTION

This tool (Step 3) will guide you through a process to collate the information you have to determine whether an ICT solution should be incubated and prototyped through a 50-day prototyping process. The tool will then help you to identify the problem to be solved and develop a solution, design the prototype process, and deliver this over a 50-day period.

KEY LEARNING PROBLEM

Utilising the COIN (Challenge, Opportunity, Insight and Need) framework included in Step 1, reflect upon the key learning problem, for your education system:

CHALLENGES	OPPORTUNITIES	INSIGHTS	NEEDS
What makes things difficult? What challenges would they like to solve, and what might we like to solve for them?	What is working well? What could be made better? What motivations or ambitions can we build from?	What challenges our assumptions? What gives us clues about new approaches or possibilities?	What do people say they need? What do we think they might need? What needs aren't being met?

SYSTEM OUTCOMES	SYSTEM ENVIRONMENT
What are the key challenges and opportunities related to education system outcomes?	What are the key challenges and opportunities related to education system environments?

LEVEL OF ICT READINESS

A balanced scorecard looks at your workplace from the three different perspectives to measure its ICT readiness. Each of these perspectives focus on a different requirement for moving towards ICT for Learning, creating a balanced view of your education system's readiness. Refer back to the tools you used in Step 2 to build out your scorecard:

Government Officials' ICT Capability			
Overall average			
Government ICT Infrastructure			
Overall average			
Government ICT Ecosystem Audit			

OUR ASSESSMENT OF OUR ICT READINESS

PROPOSE SOLUTION

Ideation is the process of coming up with as many ideas as possible to solve your identified system challenge or problem.

WHAT POSSIBLE SOLUTIONS HAVE YOU CONSIDERED?

In a disciplined design process, the ideas from ideation that best meet/respond to the system problem are often developed into prototypes.

PROPOSED SOLUTION TO BE PROTOTYPED AND TESTED FOR 50 DAYS

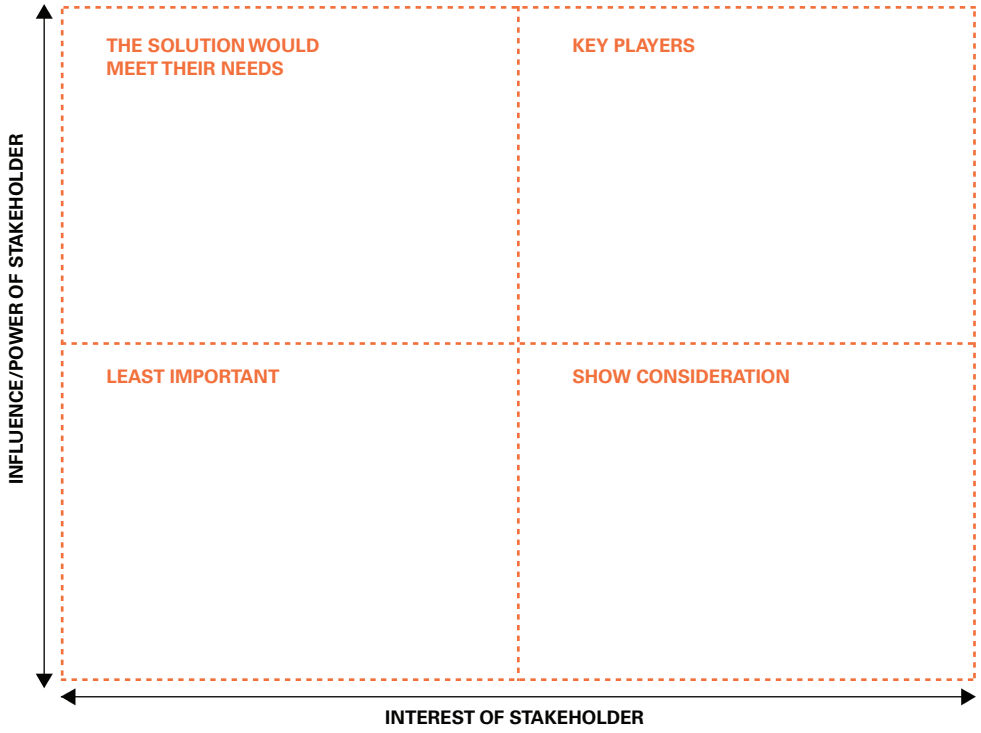
What change and innovation is needed?
Development of front-line practice (practice improvement)
-
Organisational improvements (organisational efficiency)
-
Developing partnerships (strengthening networks)?

ECOSYSTEM ANALYSIS

Considering the stakeholders you mapped in the Government ICT Ecosystem Audit (Step 2), which stakeholders are most important when considering implementing your proposed solution.

Plot the following groups of stakeholders in the grid-based on their level of influence and interest in your planned ICT solution (specify names/ departments where applicable):

1. Government
2. Private Sector
3. Parents and Community
4. Civil Society Organisations
5. International Actors
6. Others



HOW MIGHT YOU INVOLVE THEM IN THE 50 DAY PROTOTYPING PROCESS?

Key:

1. Engage closely
2. Involve and keep satisfied
3. Consult
4. Involve and monitor

IMPACT ON ICT ENABLING ENVIRONMENT

How will the solution you have proposed to prototype for action impact on your education system's enabling environment to improve your government and all schools ICT for Learning National and District Scorecards?

WHAT WILL ACTUALLY CHANGE AS A RESULT OF THE IDEAS AND ACTION THAT YOU ARE PROPOSING?

To what extent?
-
How will you know?

WHO WILL THE CHANGE IMPACT?

Your partners?
-
Different parts of the district?
-
Different parts of the system?

IMPACT ON ICT FOR LEARNING

How will the solution you have proposed to prototype for action impact on the key learning and learning environment problems?

WHAT WILL ACTUALLY CHANGE FOR EDUCATION SYSTEM OUTCOMES?

To what extent?
-
How will you know?

WHAT WILL ACTUALLY CHANGE FOR EDUCATION SYSTEM ENVIRONMENTS?

To what extent?
-
How will you know?

RISK ASSESSMENT

Reflecting on your Risk Matrix in Step 1, what are the top 5 risks for you to consider during the 50-day prototyping process and how will you mitigate them should they eventuate?

	TYPE OF RISK	DESCRIPTION OF RISK	RISK RATING (Very High, High, Medium, Low, Very Low)	RISK MITIGATION STRATEGIES
1				
2				
3				
4				
5				

IMPLEMENTATION AND CHANGE:

ADVANCING ICT FOR LEARNING THROUGH PROTOTYPING AND ITERATION

Now that you are clear on the problem and its likely causes and have come up with a proposed solution, it is time to test and evaluate the ideas so that you have a greater chance of developing a robust solution. The process used to incubate, test and evaluate our proposed solutions is called prototyping.

Steps 1 and 2

STIMULATING POSSIBILITIES
Through researching the lives of education officials, students and teachers

+

INCUBATING SOLUTIONS
Through collaboratively generating ideas and prototypes

=

Step 3

Projects and practices that respond to the needs and ambitions of education officials, students and teachers, and are more likely to make a difference

PROTOTYPE FOR ACTION

The following pages will help you plan a 50-day prototyping process. A guide to prototyping is included in the resources folder and will help you conduct a robust prototype.

OUR 50-DAY PROTOTYPE ON A PAGE

The test we will run to test our proposed solution is:

To test our new solution, we need to understand what the key features of our proposed solution are: (e.g. new professional development role to upskill teachers, a new learning environment, new devices, etc.)

KEY FEATURE 1	KEY FEATURE 2	KEY FEATURE 3

The evidence we will collect while we run our prototype is:

1.

2.

3.

TIMELINE

Start: .....

End: .....

Prototype lead:

.....

50-DAY PLAN

Team _____ Start date _____

Q1: To test the features of our proposed solution, what test will we run?	Q2: Responsibility Who will take the lead?	Q3: Timeline for delivery What is the timeline for delivery?	Q4: Resources What resources, support or capacity will be needed?	Q5: Barriers What could get in the way of successful completion?
KEY FEATURE 1				
KEY FEATURE 1				
KEY FEATURE 1				

STEP 4: Tool 9

Tool 9 - PROPOSAL FOR ACTION

Aligned to Domain 6 – Implementation and Change

Who should use this:
Education official

Group or individual:
Group

Print size:
A4

Developed by:
Innovation Unit and AKF for UNICEF

Resources you'll need:

IMPLEMENTATION AND CHANGE:
PROPOSAL FOR ACTION

By engaging people in identifying the problem and its likely causes, coming up with ideas for possible solutions, learning from by testing and evaluating the ideas, we now have a greater chance of developing a robust solution that meets their needs.

Tools 3 - 8

STIMULATING POSSIBILITIES
Through researching the lives of education officials, students and teachers

+

INCUBATING SOLUTIONS
Through collaboratively generating ideas and prototypes

=

Tool 9

Projects and practices that respond to the needs and ambitions of education officials, students and teachers, and are more likely to make a difference

PROTOTYPE FOR ACTION

This tool (Step 4) will guide you through a process to collate the information you have from your Prototype for Action to determine whether an ICT solution should be further developed into a costed Proposal for Action.

KEY LEARNING PROBLEM

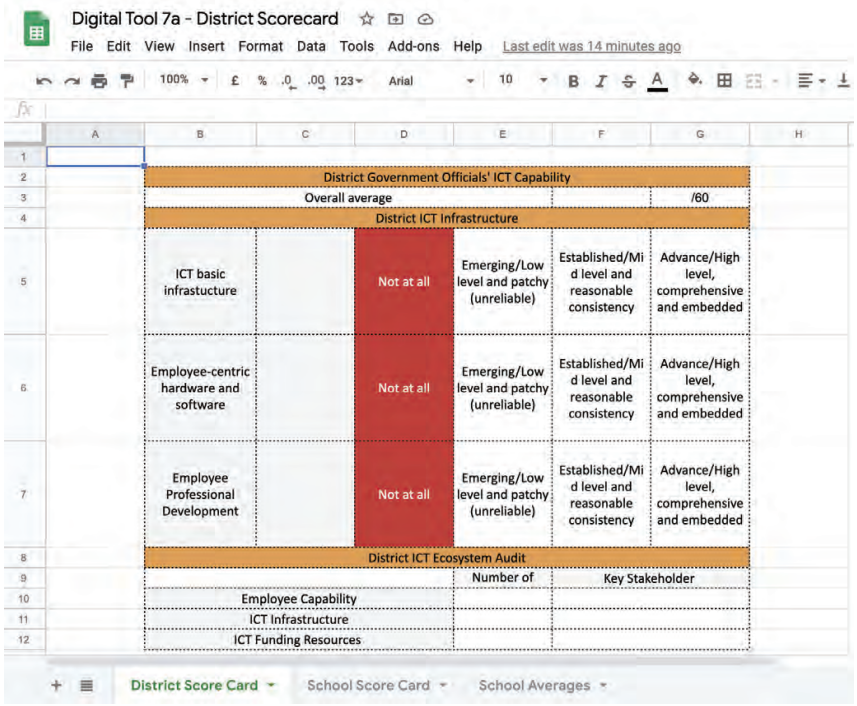
Utilising the COIN (Challenge, Opportunity, Insight and Need) framework included in Tool 8, reflect upon the key learning problem, for your education system:

CHALLENGES	OPPORTUNITIES	INSIGHTS	NEEDS
What makes things difficult? What challenges would they like to solve, and what might we like to solve for them?	What is working well? What could be made better? What motivations or ambitions can we build from?	What challenges our assumptions? What gives us clues about new approaches or possibilities?	What do people say they need? What do we think they might need? What needs aren't being met?

SYSTEM OUTCOMES	SYSTEM ENVIRONMENT
What are the key challenges and opportunities related to student learning outcomes?	What do people say they need? What do we think they might need? What needs aren't being met?

LEVEL OF ICT READINESS

Utilising the National and District ICT for Learning Scorecards included in Tool 7a & 7b , reflect upon the ICT readiness of your education system:



Digital Tool 7a - District Scorecard

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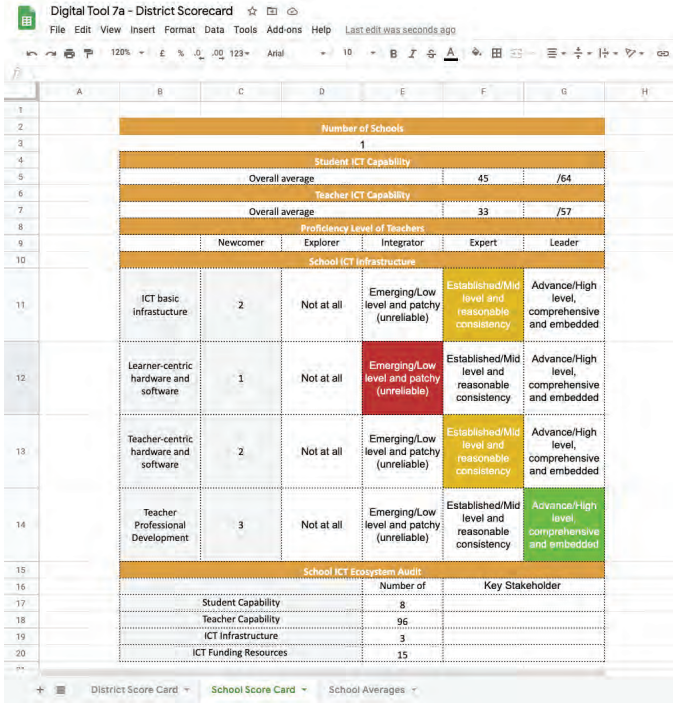
District Government Officials' ICT Capability						
Overall average					/60	
District ICT Infrastructure						
ICT basic infrastucture		Not at all	Emerging/Low level and patchy (unreliable)	Established/Mid level and reasonable consistency	Advance/High level, comprehensive and embedded	
Employee-centric hardware and software		Not at all	Emerging/Low level and patchy (unreliable)	Established/Mid level and reasonable consistency	Advance/High level, comprehensive and embedded	
Employee Professional Development		Not at all	Emerging/Low level and patchy (unreliable)	Established/Mid level and reasonable consistency	Advance/High level, comprehensive and embedded	
District ICT Ecosystem Audit						
			Number of	Key Stakeholder		
Employee Capability						
ICT Infrastructure						
ICT Funding Resources						

District Score Card | School Score Card | School Averages



Digital Tool 7a - District Scorecard

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Number of Schools					
1					
Student ICT Capability					
Overall average				45	/64
Teacher ICT Capability					
Overall average				33	/57
Proficiency Level of Teachers					
	Newcomer	Explorer	Integrator	Expert	Leader
School ICT infrastructure					
ICT basic infrastucture	2	Not at all	Emerging/Low level and patchy (unreliable)	Established/Mid level and reasonable consistency	Advance/High level, comprehensive and embedded
Learner-centric hardware and software	1	Not at all	Emerging/Low level and patchy (unreliable)	Established/Mid level and reasonable consistency	Advance/High level, comprehensive and embedded
Teacher-centric hardware and software	2	Not at all	Emerging/Low level and patchy (unreliable)	Established/Mid level and reasonable consistency	Advance/High level, comprehensive and embedded
Teacher Professional Development	3	Not at all	Emerging/Low level and patchy (unreliable)	Established/Mid level and reasonable consistency	Advance/High level, comprehensive and embedded
School ICT Ecosystem Audit					
			Number of	Key Stakeholder	
Student Capability			8		
Teacher Capability			96		
ICT Infrastructure			3		
ICT Funding Resources			15		

District Score Card | School Score Card | School Averages

LEVEL OF ICT READINESS

PROPOSE SOLUTION

Ideation is the process of coming up with as many ideas as possible to solve your identified learning challenge or problem.

WHAT POSSIBLE SOLUTIONS DID YOU CONSIDER?

In a disciplined design process, the ideas from ideation that best meet/respond to the learning problem are often developed into prototypes.

PROPOSED SOLUTION YOU PROTOTYPED AND TESTED FOR 50 DAYS

What change and innovation is needed?
Development of front-line practice (practice improvement)?
Organisational improvements (organisational efficiency)?
Developing partnerships (strengthening networks)?

PROTOTYPE LEARNING

What have you learnt from the 50-day prototyping process.

WHAT WERE YOUR LEARNING?

In a disciplined design process, the learning from the prototype are incorporated into the Proposed Action for Change

What went well?	What did not go well?

ROPOSED SOLUTION FOR ACTION FOR CHANGE

Based on your learning, what changes need to be made to your solution to achieve the change you want?

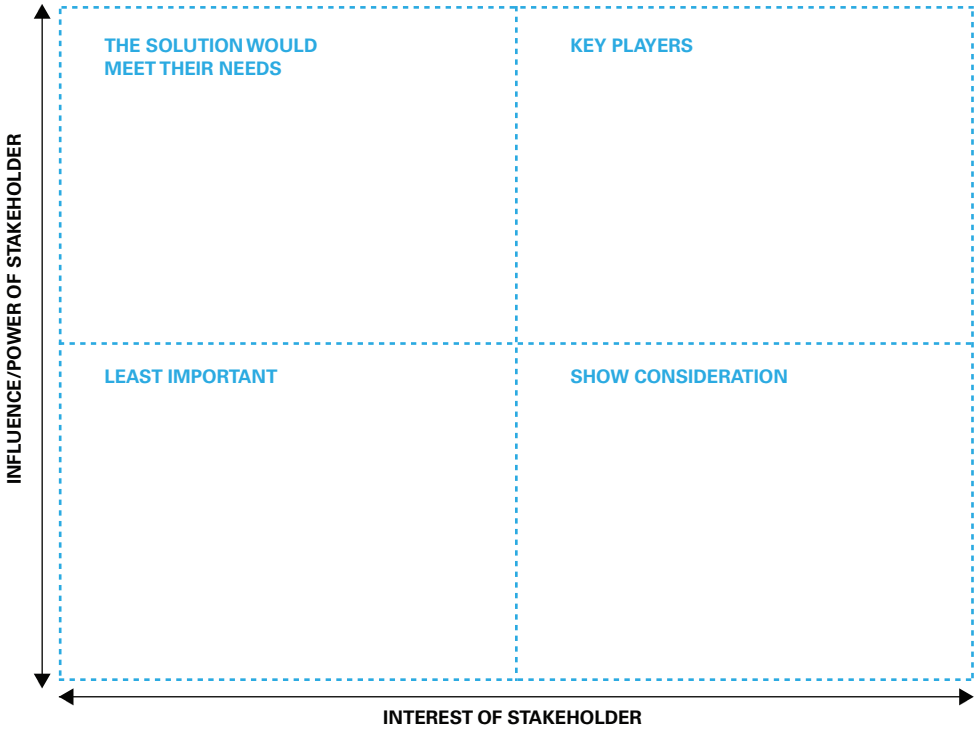
Development of front-line practice (practice improvement)?
Organisational improvements (organisational efficiency)?
Developing partnerships (strengthening networks)?

ECOSYSTEM ANALYSIS

Considering the stakeholders you identified in your Prototype for Action (Tool 8) which stakeholders are most important when considering implementing your proposed solution.

Plot the following groups of stakeholders in the grid-based on their level of influence and interest in your planned ICT solution (specify names/ departments where applicable):

1. Government
2. Private Sector
3. Parents and Community
4. Civil Society Organisations
5. International Actors
6. Others



HOW MIGHT YOU INVOLVE THEM IN THE PROPOSAL FOR ACTION?

Key:

1. Engage closely
2. Involve and keep satisfied
3. Consult
4. Involve and monitor

IMPACT ON ICT ENABLING ENVIRONMENT

How will the solution you have proposed in your Proposal for Action impact on your government's and schools' enabling environment in the National and District ICT for Learning Scorecards?

WHAT WILL ACTUALLY CHANGE AS A RESULT OF THE INNOVATION YOU ARE PROPOSING?

To what extent?
-
How will you know?

What is your indicator?	What tool will you use?	How often will you measure?	How will the date inform further changes to your solution?

WHO WILL THE CHANGE IMPACT?

Your partners?
-
Different parts of the district?
-
Different parts of the system?

IMPACT ON ICT FOR LEARNING

How will the solution you have proposed Action for Change impact on the key systems and systems environment problems?

WHAT WILL ACTUALLY CHANGE FOR SYSTEM OUTCOMES?

To what extent? How will you know?			
What is your indicator?	What tool will you use?	How often will you measure?	How will the date inform further changes to your solution?

WHAT WILL ACTUALLY CHANGE FOR SYSTEM ENVIRONMENTS?

To what extent? How will you know?			
	What tool will you use?	How often will you measure?	How will the date inform further changes to your solution?

RISK ASSESSMENT

Reflecting on your risk assessment in Tool 8, what are the top 5 risks for you to consider during the proposed Action for Change and how will you mitigate them should they eventuate?

	TYPE OF RISK	DESCRIPTION OF RISK	RISK RATING (Very High, High, Medium, Low, Very Low)	RISK MITIGATION STRATEGIES
1				
2				
3				
4				
5				

OUR PROPOSED ACTION FOR CHANGE

The Action for Change is

The key steps include:

The evidence we will collect

1.
2.
3.

TIMELINE

Start: .....

End: .....

Prototype lead: .....

TWO-YEAR PLAN

Team _____ Start date _____

Q1: What are the next most important steps to take?	Q2: Responsibility Who will take the lead?	Q3: Timeline for delivery What is the timeline for delivery?	Q4: Resources What resources, support or capacity will be needed?	Q5: Barriers What could get in the way of successful completion?
KEY FEATURE 1				
KEY FEATURE 2				
KEY FEATURE 3				

MONITORING & EVALUATION

Use the Proposed Action for Change and Two-Year Plan pages to regularly assess your progress towards your intended goals. ICT for Learning should be incorporated into your existing national and sub-national Monitoring & Evaluation frameworks and compared to previously collected data.

It is suggested that this is done annually, based on the existing Monitoring & Evaluation framework, with special attention paid to the areas where this intervention is seeking to create change.

COSTS OF ACTION FOR CHANGE

Reflecting on the data collected from your System ICT Infrastructure Audit tool (Tool 5), specifically the calculation on your budget gap, what are the expected costs for this Action for Change?

This exercise will enable you to determine the total cost of the ICT action you plan to implement. Fill in the table with figures on:

1 **The Budget Gap:** calculated from Tool 5 by deducting the 'Existing budget' from the 'Cost of full functionality'.

2. **Incurred costs:** this refers to expenses that have already occurred and cannot be recovered

3. **Projected costs:** this is the predicted cost of new purchases and recurrent costs (maintenance, replacements).

			Project Costs				
Cost Elements	Budget Gap	Incurred Costs (Sunk costs)	Year 1		Year 2		Total
			New	Recurrent	New	Recurrent	
1. ICT basic infrastructure							
2. Employee-centric hardware and software							
3. Employee Professional Development							
Total							

NOTES

NOTES

NOTES

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AGA KHAN FOUNDATION

Innovation Unit
New solutions
for thriving societies