

KNOWING WHAT WORKS

Information and Communication Technologies contributing to achieving development objectives

Project experiences and lessons learnt

Cross-section analysis – Main-Report
Conducted by an external evaluator commissioned by GIZ

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Abbreviations

BMZ	German Federal Ministry for Economic Cooperation and Development
CPE	Central project evaluation
CSA	Cross-sectional analysis
CSO	Civil Society Organisation
DbD	Digital by Default
DIAL	Digital Impact Alliance
e-	electronic
ECAM	Energy Performance and Carbon Emissions Assessment and Monitoring
ECTQM	European Centre for Total Quality Management
EU	European Union
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
GloBe	Sector and Global Programmes
HDSR	Harvesting Digital Service Results
HQ	Headquarter
ICT	Information and Communication Technology
LRO	Land Rights Office
MIS	Information Management System
MENA	Middle East and Northern Africa
MoU	Memorandum of Understanding
OS	Open Source
OECD/DAC	Organisation for Economic Co-operation and Development's Development Assistance Committee
SDG	Sustainable Development Goals
TVET	Technical and Vocational Education and Training

Executive summary

This cross-sectional analysis (CSA) Project Experiences and Lessons Learnt on Information and Communication Technologies (ICTs) Contributing to Achieving Development Objectives is embedded in GIZ's Digital by Default strategic initiative. Under the umbrella of Harvesting Digital Service Results (HDSR), this CSA supports GIZ's roadmap process for digital change by contributing to an existing evidence gap. As the last of four evaluation components, the analysis focuses on gaining insights into practices and challenges experienced by projects when ICT aspects are implemented.

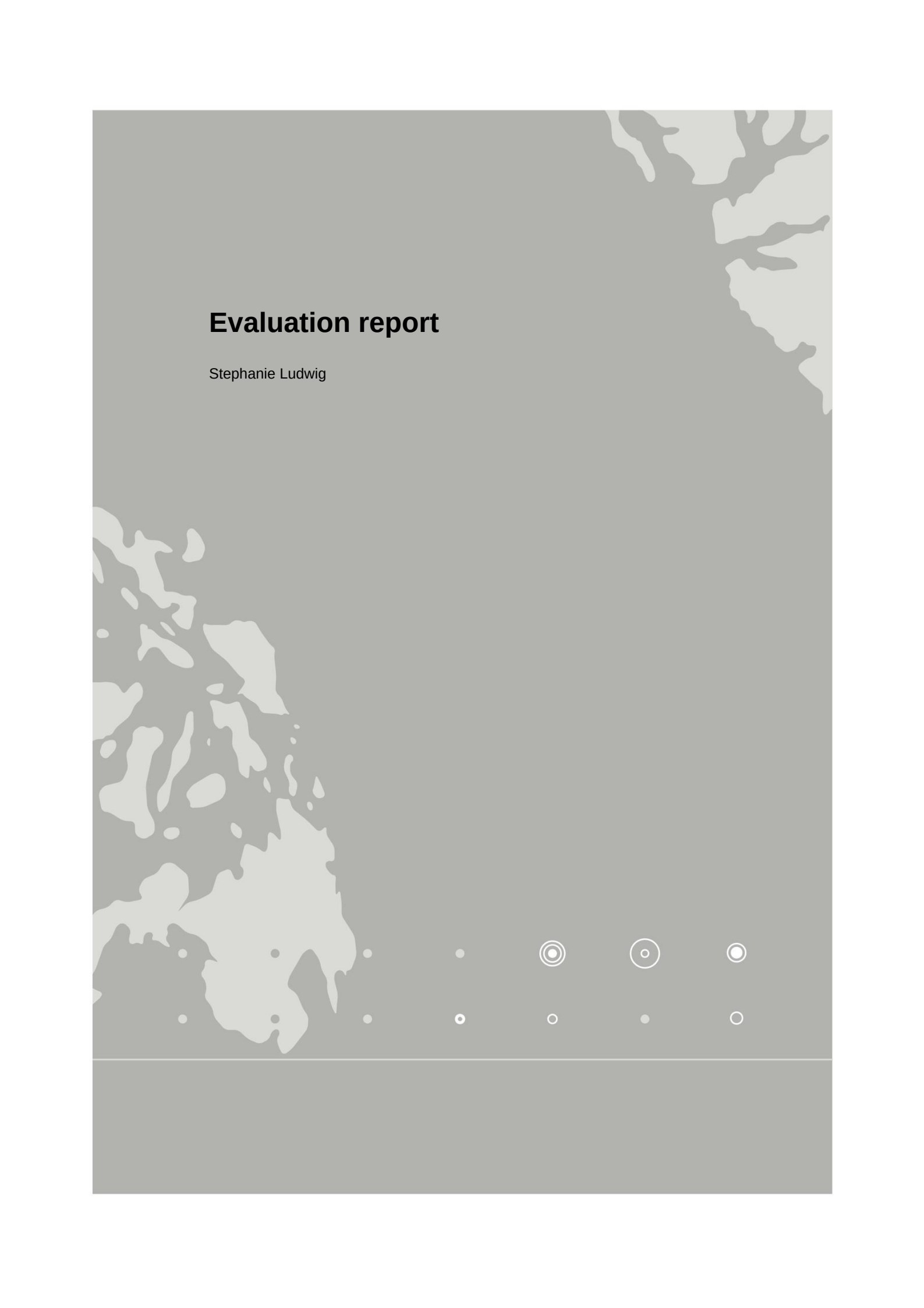
A selected sample of ten projects spanning four sectors implemented 13 ICT building blocks, including digital workflows, content management and e-learning, in their projects. This analysis builds on comparative text analysis of central project evaluations (CPEs) and semi-structured interviews with project managers and external evaluators.

The CSA distils lessons learnt and provides recommendations from two complementary perspectives. The first is the technical implementation of ICT aspects following the framework of nine digital principles, and the second is the project management cycle.

Digital principles, co-developed by GIZ, are a quality requirement for projects. Most of the projects we reviewed were aware of them. The projects confirmed that implementation according to these principles enhances the quality of the ICT solution that is developed and its contribution to development objectives. They also encountered a number of challenges that limited implementation. Principles were implemented to varying degrees and a number of practical lessons learnt from their implementation and recommendations from reviewed projects could be applied in future project implementation.

The projects that were reviewed considered that it was crucial to ensure a clear approach and to undertake substantial work on ICT aspects in all phases of the project cycle. While this appears to be obvious, projects highlighted a number of challenges due to implementation realities that prevented them from achieving this completely. In retrospect, project managers noted that more resources could be dedicated to embedding the ICT building blocks that were developed, through activities that address institutionalisation, stakeholder coordination or buy-in. Considering the ecosystem, technical implementation was at times more complex and took longer than expected. The evaluators stated that the reported challenges tend to reoccur, and projects could strongly benefit from other experiences to avoid common pitfalls and create learning on new challenges. The cross-sectional analysis contributes to closing this gap.

From an evaluation perspective, ICT project aspects contribute to each of the OECD/DAC criteria and thus to the overall project achievement. This report collected feedback on adapting CPEs and CSA processes and underlying guidance so that evaluators can analyse and evaluate the impacts of ICT project aspects more thoroughly over the years to come.

The background of the page is a solid dark gray. It features abstract, light gray organic shapes that resemble landmasses or coral reefs, primarily located on the left and top right sides. A horizontal line of white dots is positioned near the bottom of the page. The dots are arranged in a grid-like pattern, with some dots being larger and having concentric circles around them, while others are smaller and plain.

Evaluation report

Stephanie Ludwig

1 Introduction: Review object and objectives

The following chapter embeds this cross-sectional analysis (CSA, also referred to as an evaluation synthesis) in its wider strategic corporate context. It then outlines the main strategic objectives of the analysis and introduces the review object and the intended target audience.

1.1 Introduction and background

Agenda for digital change

The guiding framework for digital change is set out in GIZ's vision that 'GIZ has transformed itself across the board to meet the demands of the digital age. It makes active use of the opportunities presented by new technologies and digital innovations throughout all business units, adopting a user-centred approach. As a result, GIZ is making processes more efficient and providing services more effectively.'

Under the Digital by Default (DbD) initiative, any project that makes no use of digital solutions has to provide a justification at planning stage. This shift in the burden of proof aims to be a significant driver for promoting digital services. 'Digital projects' incorporate digital solutions that directly contribute to development results. Digital service results are mostly not specific to the selected digital solutions but rather defined by the thematic focus of the project in which the digital solution is applied. Hence, digital service results are most commonly reflected in the added value that digital solutions produce for development results

defined otherwise. For this reason, the specific contributions of digital solutions to development results are mostly not captured as part of regular project results measurement.

This cross-sectional analysis focuses on the digital service dimension, which is one of eight work areas of the GIZ image on digital transformation.

Harvesting Digital Service Results

To address the evidence gap outlined above, Harvesting Digital Service Results (HDSR) was launched in 2019 to support GIZ's roadmap process for digital change. Focusing on the digital service dimension of GIZ's 'target image digital change', HDSR's overarching goal is to generate evidence to strengthen GIZ's ability to fully, credibly communicate its achievements in digital service provision, and support the impactful roll-out and continuous improvement of DbD as a new concept.

GIZ's global portfolio currently encompasses over 452 (GIZ ICT database¹) projects with digital service elements. Operational departments' broad commitment to DbD is likely to increase this number rapidly. However, reliable evidence on the results and the added value of digital service provision remains scarce.

HDSR implements four evaluation components that mutually supplement each other to successively increase the results levels (output, outcome and impact) for which evidence is produced, and the breadth and depth of the evidence base.

Building on GIZ's central project evaluation (CPE) mechanism, the evaluation synthesis can rely on the evidence base of conducted CPEs with an added focus on ICT-related impact evaluations. The synthesis then bundles existing experience and expert knowledge.

The goals for the evaluation synthesis are similar to

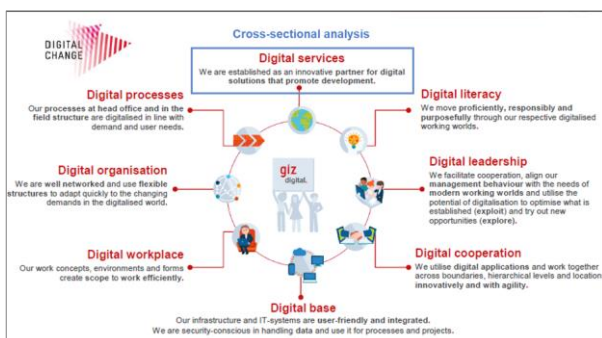


Figure 1: GIZ image on digital transformation (Source: GIZ 2021).

¹<https://digitalportfolio.toolkit-digitalisierung.de/en/login/>

those formulated for the case study component. However, the case study component puts an additional focus on how digital solutions impact digital transformation. While an evaluation synthesis is particularly effective at providing cross-case analysis for a large evidence base (breadth), case studies focus on comprehensive within-case analysis (depth).

In evaluation syntheses, GIZ bundles existing experience-based knowledge and expertise. New knowledge is generated by conducting additional comparative assessments, with individually selected questions and criteria. Evaluation syntheses are an important tool as they make findings from individual projects available for company-wide learning. As such, they do much to make evaluations more useful.²

More generally, cross-sectional analyses examine and summarise the findings of evaluations. They are particularly important within GIZ's quality and knowledge management system. GIZ makes a distinction between evaluation syntheses and meta evaluations. Cross-sectional analyses in the form of evaluation syntheses have been conducted at GIZ since 2007. Since 2010, they have been joined by meta evaluations.

The CPE Group within the GIZ Evaluation Unit manages all CPEs and therefore also manages this HDSR component.

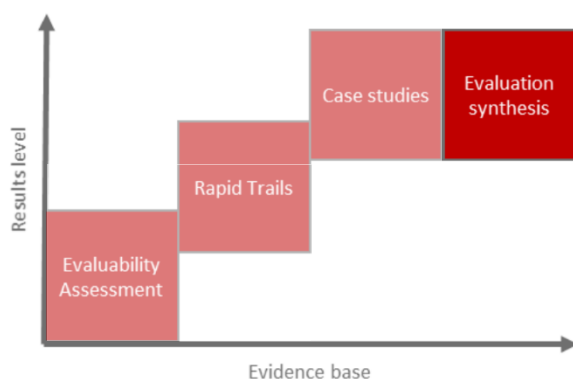


Figure 2: Evaluation synthesis as one of HDSR's evaluation components (Source: GIZ 2021).

1.2 Review object: selected digital projects

According to the GIZ evaluation system, ten projects that implemented considerable ICT aspects (see the table) were evaluated on the basis of a random sample. The CPE evaluation reports prepared in this context were the basis of this synthesis. For these CPEs, evaluators were asked to evaluate ICT aspects in addition to standard CPE requirements.

The 10 projects in which the digital approach was explicitly evaluated and piloted were identified from the intersection of known projects with a digital approach (the list was provided by Sector Project Digitalisation) and projects that had a CPE planned in the following months. In a second step, this list was verified with the respective projects.

The projects that were reviewed cover four sectors in which GIZ works. See Figure 3 for details.

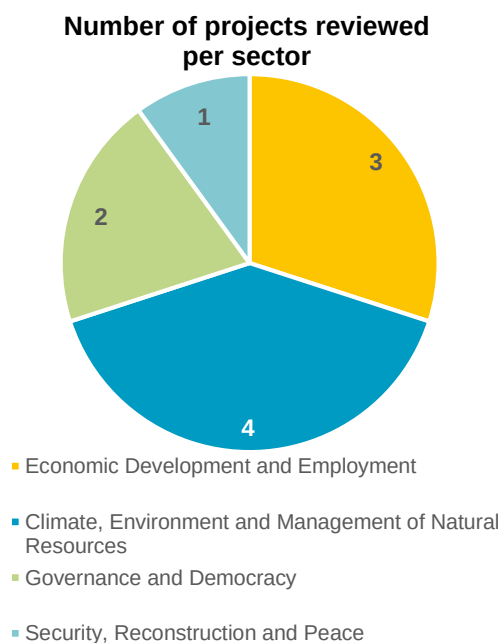


Figure 3: Projects reviewed per sector

This CSA reviewed the various ICT aspects that were implemented in the reviewed projects. The Digital Impact Alliance (DIAL) has differentiated 23 ICT building blocks for ICT development measures to date (see the complete list of ICT building blocks in Annex 1). Across the projects that were reviewed, 13 ICT building blocks were applied (see Figure 4).

²https://www.giz.de/en/downloads/05_GIZ%20EVAL_QSA.pdf

Notably, digitalisation and digital transformation include additional work streams that are not ICT building blocks. Work streams such as ICT-related policy support, inclusive digital business planning and others are also crucial to the measure's overall success.

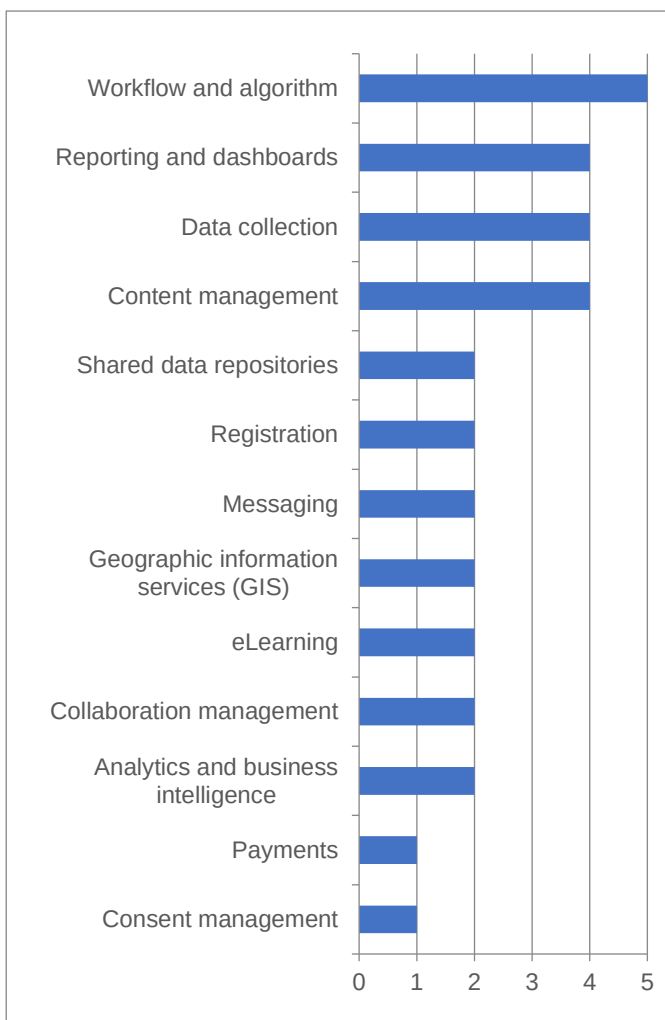


Figure 4: ICT building blocks implemented by projects.

Objectives

This cross-sectional evaluation/synthesis was carried out to broadly review in the evaluated projects (CPE) whether the use of digital solutions actually improved GIZ's service provision.

This evaluation synthesis also aimed to gain insights into the (potential) contributions of DbD to promoting the digitalisation of GIZ services and among partners, and the conditions under which digital solutions can best contribute to development results, drawing from the experiences of the sample projects.

Building on these project insights, the analysis aimed to support decisions in the context of planning, implementation and monitoring/evaluation of projects and the further development of service offers. It also aimed to contribute to the (further) development of sector and country strategies/concepts.

The overall expectation of the CSA was not only to reflect on contexts, but also to analyse context factors and more complex constellations.

1.3 Target group

This analysis addressed the following core target groups:

- staff at headquarters in country offices and in projects with ICT aspects to better plan, implement and evaluate digital projects,
- Sectoral Department staff to implement a stringent approach to ensuring DbD for all project development processes, and
- the Corporate Evaluation Unit to enhance future corporate evaluation processes, evaluate digital projects and better utilise ICT during evaluations.

2 Methodological approach

2.1 Evaluation design

This cross-sectional analysis applied a purely qualitative approach whereby secondary research³ was backed up by primary research. The analysis synthesised insights from previously conducted project evaluations (CPEs) and semi-structured interviews.

In accordance with academic practice, an inductive and deductive approach was applied. The review of existing criteria (see Section 3.2) was deductive, while new criteria were inductively generated during the review and research process. The analysis was designed to deduce relevant information from project evaluations to add depth and breadth on the implementation of digital projects to pre-defined GIZ project and evaluation criteria that apply to all projects.

The analysis was conducted stepwise:

1. Document review and assessment of content quality/evaluability
2. Selection of core evaluation criteria
3. Analysis of secondary documents
4. Synthesis of results based on existing evaluation criteria
5. Gap analysis
6. Addition of other evaluation criteria
7. Interview guideline based on updated criteria and questions
8. Interviews
9. Synthesis of interview results with results from secondary research
10. Overview on further research potential, questions and limitations
11. Recommendations and considerations

Broken down into the various phases of this analysis (inception, implementation and validation), each step and defined milestone built on the others logically. The procedure was a pragmatic approach to ensure sharpened understanding of aspects and concrete

criteria and reference points for the operationalisation of ICT-enabled project planning, implementation, monitoring and evaluation.

2.2 Questions and criteria

The CSA addressed a broad research field and extended its scope beyond a pure cross-sectional analysis of project evaluations.

From a traditional cross-sectional analysis approach, the CSA synthesised the results of the ten CPEs with regards to:

- ICT aspects that impact OECD/DAC criteria (see details on CPEs below) and
- success and failure factors of digital projects or digital components/aspects.

A number of additional evaluation questions (see the interview guideline in the Annex) were integrated into the standard CPE evaluation questions to produce sufficient credible data to achieve the broader strategic objectives of this CSA, focused on projects that implement ICT aspects:

- digital principles,
- ICT integration significance for OECD/DAC criteria and
- additional, inductively generated aspects that are relevant across the project cycle.

2.3 Evaluation methods

This cross-sectional analysis applied two qualitative research methods: document synthesis and semi-structured interviews.

Comparative text analysis and synthesis

GIZ conducts CPE for selected projects based on a rather standardised approach to ensure comparison among projects. The CPEs that comprised the

³Software to support coding such as MAXQDA was not used due to the small

sample size.

content for the secondary analysis were specifically contracted with the extended objective of including an additional evaluation focus on ICT aspects.

Evaluators were tasked with conducting the CPE of selected digital projects (see also Section 1.2 Review object). They received the following set of additional questions to expand on selected sections (the numbers listed below refer to the CPE sections) while ensuring a focused analysis without extending greatly the scope of the CPE.

- 2.2 Results model including hypotheses: If the project used digital solutions, which were they? What was the significance of these digital solutions in the framework of the theory of change and the results model?
- 4.2 Relevance: To what extent did the use of digital solutions contribute to expanding cooperation with partners or beneficiaries, that is, through additional participation possibilities?
- 4.3 Effectiveness: To what extent did the use of digital solutions contribute?
- 4.5 Efficiency: To what extent did the use of digital solutions contribute to gains in efficiency? To what extent did digital solutions offer opportunities for upscaling?
- 5.1 Factors of success or failure: If the use of digital solutions was successful, to what extent do they have the potential for transfer into other projects (that is, different countries or sectors)?

The ICT-specific evaluation provided in each of the ten selected CPEs was analysed thoroughly for this CSA.

Interviews

Desk research was triangulated with primary qualitative inputs gathered from 18 interviews with three groups of input givers:

- project managers and project teams,
- evaluators who conducted the CPE and
- advisors in GIZ headquarters (HQ).

Interviews were conducted with eight projects. The remaining two projects were analysed based on their CPE only.

The interviews were conducted in two phases: a structured interview phase followed by a semi-structured interview phase. The structured interviews

ensured that a set of core information was provided by each project. The questions allowed the perceived results to be confirmed based on secondary research. Therefore, the structured interviews allowed consistent feedback to be received and thus projects could be confirmed directly at pre-defined levels. The semi-structured interviews followed guiding questions, yet allowed for open-ended responses from participants to gather more in-depth information. Considering the diverse nature of projects and their way of implementing ICT aspects, this flexible approach encouraging two-way communication helped to explore additional information that was not covered in the secondary research or previously prepared areas of research.

The interviewees and projects were anonymised to allow for, and even encourage, sharing of critical perspectives.

2.4 Limitations

This analysis faced certain limitations in terms of sample size, evaluability, reliability, validity and generalisability.

Sample size

On average, the selected projects were conceptualised before the DbD approach was introduced in 2017. Therefore, only a limited number of projects are available that have been evaluated with an ICT focus. Due to the limited number of cases, a sound quantitative analysis could not be carried out. Therefore, this synthesis provides a qualitative analysis. However, the analysis is intended to be the starting point for possible future ICT-focused CSAs. With a growing number of ICT-focused CPEs, the sample size of CSAs will increase, and a quantitative analysis will become an option within the next three years.

Evaluability

While the evaluated CPEs are rather comprehensive from a standard CPE perspective, a large number of CPEs could only preliminarily evaluate ICT-related aspects. Thus, ICT-specific content from the selected CPEs was limited for conducting a comprehensive CSA.

Each of the CPEs was conducted by different evaluators. Although a standardised evaluation approach was followed, their analysis approach and the breadth and depth of the ICT-specific analysis varied. To address this issue, the synthesis was triangulated with qualitative interviews.

The interviews filled perceived gaps in CPEs to a certain extent. Given that interviewees naturally have a broad range of experience and expertise in managing and evaluating ICT-enabled projects, the content of the interviews varied widely.

Reliability, validity and generalisability

The experiences and lessons learnt from the analysed projects were treated as an impetus to further explore these areas in terms of their relevance for other projects. To achieve this, the GIZ division Methods, Digital Transformation, Innovation reviewed project experiences and provided a broader perspective by adding other experiences from numerous ICT-related projects of GIZ in recent years. Similarly, GIZ project managers and external evaluators shared their expertise in their feedback by generalising aspects of the projects' experiences.

3 Digital principles

The digital principles⁴ are nine guidelines for implementing development impact-oriented, user-centred, efficient and responsible digital solutions. GIZ ratified the digital principles in February 2018. This CSA was designed to further clarify the implementation of ICT-enabled measures by analysing project experiences according to these principles.

Overall, most projects were aware of the quality requirements of the digital principles. Projects confirmed that implementing ICT solutions according to these principles enhances the quality of the solution and its contribution to development objectives. Projects encountered a number of challenges that limited implementation. The principles were implemented to varying degrees. A number of lessons learnt from their implementation and recommendations based in interviewed projects could be developed for future project implementation.

3.1 Design with the user

By designing with users rather than for them, GIZ can build digital tools to better address the specific context, culture, behaviour and expectations of the people who will directly interact with the technology. Designing together means partnering with users throughout the project lifecycle, co-creating solutions, and continuously gathering and incorporating users' feedback.⁵

Too often in the field of international development, digital tools are created or digitally supported projects and systems are designed without sufficient input from the stakeholders, whose engagement and ownership are critical to long-term success. ICT-supported projects designed without sufficient user engagement can fail due to simple usability issues and are therefore more reliant on this principle than traditional projects.⁶

Digital principle 1, design with the target group, is closely related to OECD/DAC criterion 1, relevance. It builds on the second relevance dimension, needs of target groups. Dimension 3, project objective and concept, and dimension 4, adaptation, are ideally shaped by principle 1. OECD/DAC criterion 2, effectiveness, and criterion 3, impact, are strongly impacted by principle 1, as measures designed with the target group are more likely to contribute to project results (if reflected in the results model), and create tangible impacts for the target group.

Out of the reviewed projects, three considered and/or implemented principle 1 to some degree.

Project 9 applied an agile development approach. To enhance functionality, a stepwise (iterative) adaptation and enhancement process was applied. The project supported its partner by defining requirements to enhance the processes it was aiming to digitise. The project worked closely with partners on how to best provide services to the final target group. Insights from other project work streams, such as beneficiary consultations, were applied to simplify front-end processes. The project ensured that the process reengineering included the target group's requirements.

Project 10 planned this approach thoroughly and aimed to conduct feedback loops and integrate final target groups in the iterative development of its pilot of a GPS-based, digital bus pickup for school children. Interviews with families on the overall experience were planned after the pilot to enhance the service orientation for users.

While the projects were partially aware of principle 1, as it is also relevant beyond an ICT focus, overall they implemented this principle to a limited extent. Designing with the target group is not yet widely implemented. However, a number of projects did design their ICT measure to match the needs and realities of the target groups. This is an important first step and a

⁴ www.digitalprinciples.org

⁵ Ibid.

⁶ https://digitalprinciples.org/wp-content/uploads/From_Principle_to_Practice_v5.pdf

prerequisite for eventually fully applying this digital principle.

Lessons learnt from the reviewed projects' experiences and the challenges of implementing this principle are given below.

Designing with partners as the direct target group

This CSA distinguishes between government partners as the target group and a (part of) the country's population as the final, indirect target group.

For example, project 8 reengineered standard operating procedures through digital means with their partners. They carefully analysed existing processes with the partners and decided on how to adjust them to meet the needs of their partners, who were also the main users.

GIZ projects often work directly with government partners, to support staff in their roles. As such, officials and their staff are often a direct target group. Designing measures with partners as the target group appears to be more common in GIZ projects than designing with final target groups.

Encouraging design with users, instead of for users, in project concepts

Overall, the projects that were reviewed appeared to be encouraged to work in a needs-oriented way rather than to actively involve the target group in the design. Designing for users by focusing on user needs is encouraged in output indicators by conducting early input interviews/focus groups or workshops with target groups (for example, three workshops with target group conducted). Activities like workshops are easily quantifiable. The process takes longer for activities that design with users and may include a variety of steps and methods.

Including users is a means to develop a suitable product, not necessarily an end. However, it is often used as a milestone measurement through indicators. It is a challenge to define indicators that are as dynamic as a project. At the same time, more ambitious indicators put projects under more pressure. Holding all projects that implement ICT aspects accountable for following the digital principles could be an alternative approach that is worth testing.

Considering the target groups' ICT access and overall ICT readiness remain crucial. In project 5, the project evaluation maintained that digital outreach to rural women who were active in local empowerment could only address a limited number of people, and traditional means of outreach remained highly relevant. A clear picture of the project was not available, since no assessment or analysis was carried out after the pilot activity to better determine the actual reach and impact of the social media outreach.

Project 4 was asked to support tech entrepreneurs in rural and remote areas of the country. The project reported that most rural entrepreneurs did not focus on tech start-ups but preferred to address their target groups' needs through analogue means.

ICT-enabled measures should directly address the target groups' needs, for example, through safe, quick, reliable, easy access to a service, when suitable. By designing measures with target groups, projects may end up supporting their target group in traditional ways, as they suit the local user experience better.

Enhancing user experiences for target groups

Project 2 provided career guidance and job match making for youth and young adults. The preferences of this target group were considered in the design of activities like a YouTube channel or a gamified app. The target group appreciated the gamified tools and usage was good during the project implementation.

Project 5 developed a cartoon figure, depicting a local councillor supporting good governance practices, and made it available through various social media channels. The figure was well received as it appeared to reflect the right mix of cultural values in its communication style and behaviour.

It is widely understood that cultural considerations are crucial. Often the best ICT-based measure is not the most successful one but the one with the best user experience. Projects should ensure a culturally adapted design like the localised cartoon or an easy to use interface appreciated by local users, despite an often highly complex backend.

Setting aside time for designing with users

At the time of the CPE of the first phase of project 10, final user feedback from the pilot could not be

gathered due to Covid-19 and changes in the commitment of a company partner. The project maintained that it was possible to plan an in-depth approach because they knew it would be extended into another phase, which would allow sufficient time to build the system qualitatively with the required adjustment phases.

The projects perceived that user-centred design practices are time-consuming or generally resource intensive. Considering that user-oriented, successfully implemented digital tools with good user experience are rare, projects would do well to prioritise this step.

3.2 Understand the existing ecosystem

Well-designed initiatives and digital tools consider the structures and needs in each country, region and community. Dedicating time and resources to analysing the ecosystem or context where GIZ works helps to ensure that selected technology tools will be relevant and sustainable and will not duplicate existing efforts. Initiatives that do not account for ecosystem challenges are less likely to achieve their objectives.⁷

Without a thorough understanding of the ecosystem, projects run the risk of duplicating efforts. Too many projects are not embedded in local structures and follow a silo approach.⁸

Digital principle 2, understand the ecosystem, is closely related to OECD/DAC criterion 1, relevance; criterion 3, impact; and criterion 5, sustainability. This principle ensures that projects take local realities, systems and stakeholders into account.

Some projects highlighted that they had a strong understanding of the ecosystem, and integrated relevant dynamics in their project approach. Others maintained that they fell short on embedding their project in the overall ecosystem, often due to time pressure and a focus on delivering on defined project objectives. Despite the mandatory stakeholder mapping for projects, there seems to be less of a

perceived need to actually have a good grip of the overall ecosystem, especially when it comes to ICT-relevant measures.

Lessons learnt from the reviewed projects' experiences and the challenges of implementing this principle are given below.

Conducting a detailed ecosystem analysis

Project 1 on waste management highlighted the importance of understanding the existing ecosystem when a project is designed. This aspect was missing from the appraisal and the project had to engage in a lengthy change offer to adjust the project approach accordingly. However, to complete this process during implementation, the project conducted various workshops and integrated numerous stakeholders in the design of their electronic waste disposal mechanism.

Projects that conducted detailed ecosystem analyses or reported having a thorough understanding of the local ecosystem also reported that it supported their project implementation.

Working with locally embedded providers

Project 5 outsourced their social media engagement to a social media marketing agency because the local agency had a much deeper understanding of the ecosystem than the project.

Outsourcing expertise to local professional service providers can enhance overall service delivery. However, the project should carry out due diligence before contracts are awarded and undertake quality assurance during the assignment. Projects often outsource because they lack expertise in ICT-related services, which makes it hard for them to evaluate the quality they have purchased.

⁷www.digitalprinciples.org

⁸ <https://digitalprinciples.org/resource/from-principle-to-practice-implementing-the->

3.3 Design for scale

Designing for scale means thinking beyond the pilot, making choices that enable widespread subsequent adoption, and determining what will be affordable and usable by an entire country or region, rather than just a few pilot communities. Projects may need to evaluate the trade-offs among processes that would lead to rapid start-up and implementation of a short-term pilot versus pilots that require more time and planning but lay the foundation for scaling up by reducing future work and investment. By designing for scale from the beginning, an ICT-supported initiative can be expanded more easily to new users, markets, regions or countries if the initiative meets user needs and has local impact.⁹

International development projects often fail to move beyond the pilot stage or to reach the anticipated scale, due to design flaws that limit the ability to scale up. While scale is not a necessary criterion for success of all projects, careful consideration of the required inputs can help projects reach their full potential.¹⁰

Digital principle 3, design for scale, is closely related to OECD/DAC criterion 1, relevance, in terms of planning for scale when a project is designed. It further affects criterion 3, impact; criterion 4, efficiency; and criterion 5, sustainability.

Some projects showed that the implemented ICT measures had an impact and the potential to scale up. Most projects had not achieved significant scaling up during the project phase that was evaluated. This is also because a number of projects did not explicitly plan beyond the pilot in these phases. Scaling up takes longer than most project phase durations. As most of the reviewed projects experienced delays in developing a pilot, they often focused on implementing it in a city or a province first, rather than addressing a national system.

Lessons learnt from the reviewed projects' experiences and the challenges of implementing this principle are given below.

Conceptualising for scale

Project 9 extended the GIZ Energy Performance and Carbon Emissions Assessment and Monitoring (ECAM) tool and introduced it to the partner, customised to existing needs and requirements. The partner now manages energy consumption better. The module of the tool that was developed has been added to the GIZ ECAM tool, which is used globally by about 40 facilities (see also principle 9).

Project 5 worked according to the logic that consideration of participatory development plans as a basis for developing a respective budget plan leads to financing and implementation of strategic and demand-based development priorities. The system that is introduced could reduce common ad-hoc spending practices (e.g. based on the interests of individuals or the elite) and increase the quality of local-level infrastructure and service delivery. In turn, this would lead to greater satisfaction of the local population. Specifically, through the use of the digital system, two partner provinces have increased their revenue by 30 percent compared with the previous year. Partners are considering extending this approach to a broader use case and in more provinces.

The above projects had an impact and have the potential to scale up because this approach was conceptualised from the beginning, as projects reported. Designing ICT-enabled measures for scale should be considered when a potential proof of concept through a pilot is conceptualised. Often, scaling up approaches requires additional adjustments as new stakeholders come into the picture, which should be accounted for during project planning.

Creating proof of concept and awareness for scale-up potential

In project 5, a digitalisation activity was piloted in two provinces. A digital budget management system was implemented for water fees and had the potential to be extended to other type of fees. This reduced the risk of overloading the project's capacities during the piloting stage. The pilot had a strong impact on local governance structures within its narrow area. It sparked local partners' interest in expanding the pilot and other provinces' interest in replicating the approach. The implemented system is in operation, in

⁹www.digitalprinciples.org

¹⁰ <https://digitalprinciples.org/resource/from-principle-to-practice-implementing-the->

parallel with the previous paper-based approach, and is ready to be scaled up.

Project 5 achieved extensive scale and high visibility of a women's empowerment platform. At province level, it was implemented with local partners who refused to take over the platform after it became known at parliamentary level. According to the project, the partner got scared about the responsibility and the high visibility of a sensitive topic. Their expectations on scope and scale were different from those of the project, which considered increased scope and scale a success. The GIZ project highlighted that besides their mandate, it is important to understand who has which role and capacities, and whether the partner's department is really capable of managing their contribution to the project (also considering HCD and other support).

Creating awareness of the pilot's potential, generating interest and building partnerships are crucial to create buy-in for scaling up initiatives. However, increasing awareness can also make ICT and other innovative approaches more prone to limitations from the less technologically inclined in decision-making positions.

Addressing limited scale due to resource constraints and fragmented project objectives

A number of projects noted that the time allocated for implementation of the ICT-enabled measure was too short, irrespective of the type or size of the measure. Projects highlighted that the ICT aspects under evaluation constituted only a fragment of the overall project. Evaluators at times expressed concern that the projects tended to be overloaded with work streams, which addressed different stakeholders and could only build up on each other in a limited way. Within these project realities, the objective of achieving pilots is understandable.

Pilots are an important milestone when ICT-enabled measures are developed and build a basis for further testing, adaptation and scaling up. However, a stand-alone pilot is unlikely to lead to a sustainable development. Projects should carefully consider at planning stage whether a scalable ICT measure can be developed to a degree that allows future scaling up. If resources are lacking, these should be distributed to core work streams. Thus, ICT-enabled projects that are planned with less fragmentation are better

equipped to achieve sustainable long-term impact.

Designing inclusive business models with a pre-rogative for scale

Project 1 developed a scalable platform on waste collection with a solid income generation approach.

Project 10, which has not yet completed its pilot, strongly designed its school transfer model for scaling up, due to its high-level engagement, inclusive business approach and national scope.

Developing platforms and business models without building for scale would not achieve its purpose, because such a platform requires a critical mass (a minimum reach of scale) to be self-sustaining. Without the critical mass of access points for users, the system is not relevant to enough users. Without the critical mass of users, the platform costs cannot be borne by user fees.

Designing for scale can be further embraced by projects if they have strong partners involved at the right level, have a typically inclusive business and market approach and strong institutionalisation from the beginning. Often, projects with small budgets and limited staff are asked to engage in ICT-related activities besides numerous other activities and work streams. Projects can only deliver a robust, scalable system if they can focus on doing so with the required resources at hand.

3.4 Build for sustainability

Building sustainable programmes, platforms and digital tools is essential to maintain user and stakeholder support, and to maximise long-term impact. Sustainability ensures that user and stakeholder contributions are not minimised due to interruptions, such as a loss of funding. A project built for sustainability is more likely to be embedded in policies, daily practices and user workflows. For many digital initiatives, institutionalisation by a non-governmental organisation, private company or government is the ultimate goal in achieving long-term, positive impact. For others, institutionalisation is achieved by developing a business

model that has sustainable revenue generation.¹¹ Too often, international development projects fail to factor in the physical, human and financial resources that will be necessary for long-term sustainability. Many lack institutionalisation of their projects within local structures.¹²

Digital principle 4, build for sustainability, is aligned with OECD/DAC criterion 1, relevance, in terms of planning to ensure sustainability when a project is designed. It further affects criterion 3, impact; and criterion 5, sustainability.

Most projects develop first in collaboration with partners and perceive institutionalisation as a second step. Projects that embed ICT aspects in partner structures from the start report benefits in terms of more sustainable implementation.

Lessons learnt from the reviewed projects' experiences and the challenges of implementing this principle are given below.

Institutionalising ICT-enabled measures

Project 8 worked with the partner as the owner of the e-governance system from the start. All the information was saved on the partner's servers.

Project 1 developed a platform with a solid income generation approach, so that the system could finance its maintenance in the long term. Developing payment mechanisms alongside service delivery clearly increases complexity. Considerations of digital payment providers, operational issues, user experience and risks related to the redistribution of funds by creating a new income source for the partner have to be taken into consideration. Building on the numerous project experiences, creating a financially sustainable approach is crucial and should not be overlooked. A project's delivery on a platform might meet a typical indicator but cannot be deemed successful if it is not sustainable.

Project 8 managed to build strong buy-in at implementation levels (director and operational staff) as the system directly enhanced their work processes and was considered highly relevant. Without explicit prioritisation of ICT in strategic documents, high level

representatives lack guiding frameworks. Over time, the project managed to create buy-in at a higher level.

Institutionalisation in the partner system is best achieved if it is addressed from the start of the project as an integral part of project design and implementation. If ownership of the measure by the partner is built into the approach from the outset, handover at a later stage is not necessary and resources typically spent on handover activities can be redistributed to building capacities and strengthening ownership throughout the project. At the same time, various stakeholders develop trust and support during implementation.

Strategic alignment has to be considered at the various levels that projects' work on. During appraisal, the perspectives of operational hierarchy levels are often not yet considered, as project memorandums of understanding are typically signed at national level and implementation in sub-regional contexts is often decided during the implementation phase.

Partner capacities and responsibilities

Besides integrating measures into the partner's structures, the measures also need to be maintained and developed by committed, capable staff to ensure their long-term impact.

Project 8 supported the capacity development of partner departments from the start of the project. Two development workers were placed in the Department of Land Management to support the digitisation of the Land Rights Office (LRO). They helped in two crucial processes: registry and surveying.

Project 7 could not fully hand over its platform at the end of the project as no project manager was available within the partner institution.

Project 6 handed over the maintenance of a knowledge management platform to its partner at the end of the project. The obvious choice for the handover was the project's dedicated focal point, who is a sectorial policy expert representing the government internationally in the sector. However, the focal point is expected to have other work priorities at a much

¹¹ www.digitalprinciples.org

¹² <https://digitalprinciples.org/resource/from-principle-to-practice-implementing-the->

higher impact level than uploading and managing files. As a focal point, it appears he accepted the handover due to lack of other staff in the small department. The presumed delegation of tasks is often not available to partner staff in small departments with tight budgets. The GIZ project considered website maintenance a small task and underestimated the pressure the small department is facing. The platform has not been maintained.

In project 7, the head of project and the main technical advisor left the project towards its end and a transition or implementation of handover activities did not take place. In addition, the appointed focal point in the partner institution did not show interest in the knowledge management website. When this person was promoted, they did not ensure transition at partner level.

When they work with ICT aspects, partner staff need a learning phase to become proficient in taking over new tasks. Partner staff often do not feel that they are in a position to express concerns openly. GIZ projects would do well to consider partner staff's reluctance in embracing change (despite GIZ staff's own motivation). A focal point's appointment does not necessarily lead to committed work engagement. A support structure with agreements/a manual (for example, on topics such as what can be done if the focal point leaves office, if resource requirements change or if a certain technical issue arises) could be embedded in partner departments.

Identifying and engaging the relevant teams in partner organisations from the start can contribute to developing buy-in and capacities during the project. This would minimise transition efforts towards the end of the project.

To the current understanding of this report, ICT aspects and the required partner commitment and contribution to ensure sustainability were not negotiated in the project planning or inception phase and therefore were not formalised in underlying memorandums of understanding. When project managers were addressed, this degree of formalisation was not perceived as relevant or was not considered. More often than not, ICT-related measures are less clear to the stakeholders involved (including the project team and partners) than traditional, well-established approaches. This contributes to hesitation in

formalisation.

Saving on opportunity cost by applying ICT aspects

Projects share the perspective that ICT measures tend to be rather low cost compared to other GIZ implementation measures. Most interviewees referred to the travel and logistics costs saved in on-site meetings, training sessions and conferences.

Project 10 explained that it implemented training packages 100 percent on-site without considering the option of using ICT support. After Covid-19 measures, the project has become more aware of using ICT tools where appropriate and would implement blended learning packages in the future. It would deliver introductory learning online and only carry out technical training on site.

By implementing ICT aspects, projects can contribute to reducing overall expenditure by partners in maintaining and further extending the measure.

Supporting inclusive business models and digital economies

Project 10 developed a mobile phone-based school transfer service called Smart Move. In the project phase under evaluation, the project developed a pilot with what was at the time the leading mobile transfer app Careem. In the second phase, the project aims to scale up a fully fledged, inclusive, business-based service. Without the ICT aspects in the design of this measure, significant upscaling would simply not be achievable in a comparable way. Building on tested and proven concepts such as Careem and Uber and adapting them to local development contexts (children receive transport to get to schools) can be a powerful approach. The project stated that this approach requires time and the second project phase was essential to develop the project to its potential. Exit at the pilot stage would not have had much impact, as ensuring a sustainable business model requires time and expertise in this field.

Project 3 created awareness among partner governments and local private sector partners for the long-term development potential of inclusive business models in the InsurTech sector. The project provided cross-country learning experiences on tested, proven business practices and facilitated exchange between actors to set them up for implementing inclusive

business models. While the project did not engage in direct implementation, it contributed to laying the groundwork for understanding and crucial partnerships that are prerequisites for developing inclusive business models.

Working with a company or a civil society organisation is an approach that is generally applied less frequently but has considerable potential. There appears to be limited awareness and experience of how to work with these organisations and how to develop a sustainable business case with them.

Planning for exit and handing over ICT-enabled activities

Few of the projects that were reviewed had an exit strategy planned at the start of the project. The overall approach was to develop the exit strategy towards the end of the project when the situation had become easier to assess. Other projects did not have an exit strategy at the time of the CPE.

Project 7 arranged a handover to their partner to host the developed platform at their own expense. The contract was drawn up for one year and was planned to be renewed the coming year. The partner received around 75,000 euros to market and maintain the platform. However, the evaluation did not see the long-term impact of the platform. Despite the additional funds, no project manager could be employed and the platform remained rather inactive.

Project 2 expressed the importance of extended availability of resources to continue implementation or even scaling up. These aspects were assessed very differently by the respondents. It was questioned whether government authorities would have enough resources available to continue the implementation with the expected quality. The ongoing implementation of European Centre for Total Quality Management (ECTQM) with the respective management improvement measures depended on additional funds. Resources were not ensured for coordination institutions. Continuation of the postgraduate programme for career guidance would depend on funding. Carrying out skills competitions and school competitions needed to be budgeted for.

Project 10 on innovation labs was planned to strengthen the use of ICTs and other innovative approaches. Due to adding this new field of action and

a change in component management, this measure was started towards the end of the project. Three workshops were organised in which the target group of tech-affine and entrepreneurial youth developed and presented project ideas. Two to three selected projects (such as websites) received seed funding (10,000 euros per idea) before the project end. Students reported feeling disappointed after being motivated to develop an idea and then being left alone abruptly, without much project follow-up. While some youth continued to work on their ideas, others stopped when they encountered barriers such as registering their idea/company. The project drew lessons from this experience. They stated that supporting business ideas at seed stage requires at least one or one and a half years of support after the selection of promising proposals.

Project 5 still holds the intellectual property rights for the cartoon character and social media outreach that the project developed. The project explained that the handover of rights was not easy, as GIZ prefers to have its product used in a respectable context. Handing over at sub-regional level limits scaling up by other authorities in different provinces. The final use of a cartoon figure could not be ensured if it was given a Creative Commons license. Due to this somewhat unusual content, the typical intellectual property rights rules appeared rigid and limited the project's agency.

Projects with ICT aspects are very much dependent on the organisation that runs them. ICT applications need to be maintained and online communities moderated. Capacities and structures for long-term impact require time to be built. A number of projects experienced delays, which reduced implemented activities and thus required a stronger exit approach to ensure the project duration. Addressing the project exit at a late stage can limit its sustainable impact.

For long-term success, the partner relies for continued implementation on financial and human resources, just like development projects (see efficiency dimensions).

Continuing ICT-enabled activities through successor projects

Most of the evaluated projects are being continued in some way by another GIZ project. It appears that projects consider project continuation to be a more

valuable approach than a project exit strategy. They often put seemingly more effort into ensuring continuation of the project or selected project measures than implementing a comprehensive exit strategy.

While some projects continue their measures in follow-up projects (project 10), others ensure that another project integrates a selection of the most promising measures in their strategy. Project 8 had four previous projects and is being followed by another project that focuses on the system's nationwide roll-out. While this may lead to a more fragmented approach in the new project, extending the measures can provide the required resources to ensure that progress is achieved with a sustainable product or service.

3.5 Be data driven

When an initiative is data driven, quality information is available to the right people when they need it, and they use these data to act. The data produced by a digital initiative should be used for more than just outputs such as published work or donor reporting. Examples of the types of data that can be collected to inform decision-making include surveillance, research, operations, project management and data from secondary sources collected outside of the programme.¹³

International development projects often fail to fully leverage data to support project planning and decision-making.¹⁴

Digital principle 5, be data driven, is aligned with all five OECD/DAC criteria and is therefore a powerful tool to enhance overall project success.

The use, generation and analysis of data were addressed very differently by projects. This is only natural due to the variety of project approaches that were reviewed. Overall, regardless of the degree to which projects actually harnessed data, they felt they could have done more. While not all projects were proficient in addressing the various potentials, there seemed to be an overall perception of great unaddressed potential.

Project 9 conducted mapping based on a geographic information system (GIS) of 45,000 toilets and water points. The mapping was conducted through a traditional baseline household survey. Twenty-five enumerators went door to door, using smart phones and tablets with a customised survey app. They inserted data in offline mode and uploaded the data collected when they were connected to the internet. This mapping provided a valuable basis for informed decisions.

Project 5 conducted a number of social media-based outreach activities. Although it used typical analytics tools, the project lacked more detailed insight into how users perceived their messages. On their Women's Empowerment Platform, they could not follow user behaviour, which may have hinted at the strengths and weaknesses of the platform.

Project 6 developed a platform focused on knowledge sharing of PDF documents. It had few other functions.

Projects are interested in harnessing data and could benefit from guidance and technical expertise during project appraisal. At the same time, there appears to be a lack of knowledge when it comes to a thorough, automated way of collecting, analysing and using data. The GIZ Data Lab and Data Service Centre has developed guidance resources for projects to better embrace opportunities related to data.

3.6 Use open standards, open data, open source and open innovation

Frequently, scarce public and international development resources are spent on new software code, tools, data collection, content and innovations for sector-specific solutions that are locked away behind licensing fees, with data only used by and available for specific initiatives. An open approach to digital development can help to increase collaboration in the digital development community and avoid duplicating work that has already been done. Programmes can maximise their resources and ultimately their impact.

¹³www.digitalprinciples.org

¹⁴<https://digitalprinciples.org/resource/from-principle-to-practice-implementing-the->

International development projects often fail to fully leverage data to support project planning and decision-making. The consequences of not sufficiently making data-driven decisions are not well understood but can include diluted impact and unintended outcomes.¹⁵

Digital principle 6, use open standards, open data, open source and open innovation, is aligned with OECD/DAC criterion 3, impact, in the sense that the project shares the ICT aspects that it develops openly with the wider community and thereby facilitates their work and impact. It is also associated with criterion 5, sustainability, in terms of reduced dependence on a lock-in maintenance contract.

Overall, there is awareness of open resources. Two projects specifically implemented their measures based on open resources. Most projects tend to trust established companies to deliver higher quality instead of adapting to open resources.

Lessons learnt from the reviewed projects' experiences and the challenges of implementing this principle are given below.

Project 9 conducted GIS mapping using Open Street Maps. This is perceived as an easy-to-use system and can be fed into various GIS systems. The project then hired a local contractor who inserted the digitalised survey content into a customised app. The contractor was in charge of conducting the field work with enumerators and adjusted the data input in their tablets accordingly. This app was naturally also compatible with Open Street Maps.

Project 8 supported the customisation of an existing open source system, based on the requirements of the partner, which owned the system from the start of the project.

Project managers highlighted that while open source software appears to be less resource extensive, it often requires significant customisation. Managing customisation can in some instances require more management input than handing over the entire software development to a company that services the partner.

GIZ HQ has a team in the Digital Society competence centre that works on open source topics and can provide project advice.

3.7 Reuse and improve

Instead of starting from scratch, projects that 'reuse and improve' look for ways to adapt and enhance existing products, resources and approaches. 'Reuse' means assessing what resources are currently available and using them as they are to meet programme goals. 'Improve' means modifying existing tools, products and resources to improve their overall quality, applicability and impact. In this way, GIZ can contribute to the work of the global development community and dramatically reduce the costs and time needed for development and testing.¹⁶

As the use of information and communication technologies in international development has matured, so too has the foundation of methods, standards, software, platforms and other tools. Despite this rich base of technologies that are available for use, scarce development resources are often spent building new tools when existing resources could be adapted and improved.¹⁷

Digital principle 7, reuse and improve, is aligned with OECD/DAC criterion 4, efficiency, as building up on existing resources and related experiences/knowledge typically requires less project resources (including necessary adaptations) than when building from scratch.

The projects that were reviewed tend to build from scratch in the pursuit of delivering full customisation suited to their partner's needs. However, there is an increasing awareness of reusing existing resources.

Lessons learnt from the reviewed projects' experiences and the challenges of implementing this principle are given below.

¹⁵ <https://digitalprinciples.org/resource/from-principle-to-practice-implementing-the-principles-for-digital-development/>

¹⁶ www.digitalprinciples.org

¹⁷ <https://digitalprinciples.org/resource/from-principle-to-practice-implementing-the-principles-for-digital-development/>

Extending the reach of existing apps to target groups

Project 2 used the web-based interface Webmo to the great satisfaction of their youth target group. It was designed for students to compute and visualise chemistry programmes in a gamified way.

Numerous excellent applications, online content and other tools are now available. GIZ projects could act as a broker, bringing qualitative ICT solutions to a target group that otherwise would not be aware of them. The project can use tools to disseminate project-specific content or rely on general content. Sometimes, the use of a final online product that has been tested and proven by other organisations or users can be good enough service delivery. After a rapid field test by the project to ensure suitability for the intended purpose, final digital services can be used. This ensures very low use of resources and thus high input-output performance.

Adapting existing software or platforms

It can make sense for a project to enhance existing software or platforms that are used and owned by partners. In this way, institutionalisation efforts are much reduced and centred on enhanced aspects.

With government partners, project 5 built a governance support system on existing software. The software was in the testing phase when the project was asked to support the process. The project refined the existing software and added new features.

However, not all existing software is worth enhancing. Outdated systems and approaches can create more effort than starting afresh. A careful evaluation of options should be conducted before deciding on the approach.

Building from scratch for highly specialised, unique requirements

In project 5, the team developed a women's digital empowerment tool. The project argued that they had to consider 40+ national laws relating to information and therefore opted to build from scratch. Project 8 applied similar considerations. It conducted an in-depth regulatory process analysis, including support processes. The analysis was not focused on ICT. The aim was to reduce dependency on the coder for maintenance. The project trained its partner's staff to maintain the new system.

Developing locally and safeguarding quality

The projects that were reviewed followed the 'build locally' approach and contracted local software firms or independent coders.

Project 6 worked with an international IT company that developed all the websites for the member states of a regional convention. Retrospectively, the regional approach could have been delivered through templates or other requirements that could have been taken up by partners. The project experienced significant delays as the IT company was not very responsive. As it also used a server in Europe (their location), discussions about data security emerged in the partner country.

One project contracted an international expert to review and quality assure the local coders' work against requirements. Projects often struggle to develop realistic, detailed requirements in terms of technical terms of reference for the coder. Projects risk delivering software that might create maintenance or adaptation challenges for partners as unintended negative consequences. Adjusting code that does not adhere to international standards can create difficulties for a new coding team.

Overall, there is a tendency of GIZ projects to build from scratch. Besides the customisation requirements described above, projects may lack insight into comparable digital processes and on what to build up and how. In addition, when software development is outsourced, external service providers naturally have an interest in developing a new product, due to better income opportunities (especially when they develop software that cannot easily be maintained by non-tech staff).

GIZ HQ could provide pre-selected recruitment of IT professionals (expert roster) to support with writing requirements, quality assurance and coding.

Reused open source software could be provided for others to use. The project would generate an additional benefit for the relevant communities without much input. Often, awareness of this option is limited. In some cases, it would require generalising code before it is shared.

Project 9 contributed to GIZ-wide improvement of a code and shared it with HQ for other projects to use. Cooperation with the project from within GIZ meant

that it received expertise and support from HQ, which developed the first version of the code (see also collaboration).

3.8 Address privacy and security

Addressing privacy and security in digital development involves careful consideration of which data are collected and how data are acquired, used, stored and shared. Responsible practices for collecting and using individual data include considering sensitivities relating to the data, being transparent about how data will be collected and used, minimising the amount of personal identifiable and sensitive information collected, creating and implementing security policies that protect data and uphold individuals' privacy and dignity, and creating an end-of-life policy for post-project data management.¹⁸

As the field of digital development matures, independent projects will be pulled together into larger systems, and digital programmes will progress from housing hundreds to thousands of records. Consequently, the international development field needs to address these concerns more conscientiously.¹⁹

Digital principle 8, address privacy and security, is closely related to OECD/DAC criterion 1, relevance, in terms of planning for scale when a project is designed. It also affects criterion 3, impact; and criterion 5, sustainability.

Privacy and data security are perceived very differently by projects and target groups.

Overall, projects were aware of privacy and data security requirements. The depth of implementation varied depending on the ICT aspects.

Lessons learnt from the reviewed projects' experiences and the challenges of implementing this principle are given below.

Project 10 explained that ICTs are generally more accepted in urban areas and less in rural areas. The overall population seemed to be quite critical of data

sensitivity. People are worried that intelligence about them was being collected. Accordingly, the project discussed data security with their government partners.

In project 9, data protection was thoroughly discussed with the partner's IT department. The system was directly embedded in the partner's systems and met local rules and regulations. However, the project brought to attention the fact that the system did not comply with the more stringent EU data protection requirements. The project kept all data on partner servers at all times.

For project 8, it was important for partners to conduct all security updates through local servers. Privacy and security were discussed, and the project team was made aware of related risks.

Each country, target group and project approach has different perceptions of privacy and data security. While projects need to uphold minimum standards,²⁰ they are encouraged to raise awareness among their stakeholders to promote responsible use of data and information. By applying appropriate security and privacy aspects, projects contribute to following a consistent 'do no harm' approach.

3.9 Be collaborative

Being collaborative means sharing information, insights, strategies and resources across projects, organisations and sectors, leading to increased efficiency and impact. By collaborating, the international digital development community can pool their resources and expertise not only to benefit each initiative but also to strengthen the global community.²¹

International development projects often focus on isolated implementation to achieve direct project-related results. Although collaborating requires time, planning and dedicating resources to look for and develop opportunities, it can enhance overall project

¹⁸www.digitalprinciples.org

¹⁹ <https://digitalprinciples.org/resource/from-principle-to-practice-implementing-the-principles-for-digital-development/>

²⁰ See General Data Protection Regulation (GDPR)

²¹www.digitalprinciples.org

impact and sustainability.²²

Digital principle 9, be collaborative, is closely linked with all four OECD/DAC criteria, except criterion 4, effectiveness.

Projects tend to prefer stand-alone approaches to focus on immediate results delivery. Projects that engage with a set of stakeholders for implementation report benefits for scale and increased coordination efforts.

Lessons learnt from the reviewed projects' experiences and the challenges of implementing this principle are given below.

Collaborating with donor organisations

Two projects implemented ICT-enabled measures to complement work from another partner.

In the country of project 1, the European Union (EU) implemented an ICT-supported waste disposal system for various types of waste. However, they did not address hazardous waste. GIZ completed the overall system by adding this missing critical type of waste. Together, both actors achieved an overhaul of national waste disposal and collection.

Project 8 worked closely in cooperation with UN-Habitat (United Nations Human Settlements Programme) to digitise the Land Rights Office. GIZ provided two development advisors to support the process from within partner structures. A cooperation strategy document was developed.

GIZ projects used these collaborations to contribute with their partner to reaching a larger scale.

Collaborating with ICT experts at HQ

Most projects did not have contact with HQ during implementation, mostly because they either saw no need for this or did not know about possible support options and who was in charge. Some projects preferred to reach out to the country office, mostly on using ICT for project communication and internal communication approaches. Notably, at the time of implementation (roughly from 2015 to 2019), the GIZ internal awareness of digitalisation was lower than in 2020.

Many projects develop simple websites with or without upload and sharing functions. Today, simple website maker tools allow non-tech staff to develop a website with very low resources. For most partner purposes, the quality of these template-based website builders is sufficient.

Project 9 developed the ECAM tool together with HQ and Sector and Global Programmes (GloBe). After the project approached GloBe for guidance on localising the tool and ICT expertise, they integrated GloBe colleagues through a three-month secondment in the country. An additional module was developed and designed to fit the partner's needs. The module was developed so that it can be applied in other countries and has now been added to the ECAM tool, which is used globally by about 40 facilities. The project, which did not have ICT experts on the team, requested and received guidance from ICT experts at HQ on quality testing of a locally developed IT product.

The two bilateral projects 6 and 7 worked closely together and benefitted from collaboration.

For future projects, project managers expressed an interest in understanding what pragmatic services HQ offers. Specifically, some expressed interest in technical support for sharing/developing/reviewing technical requirements (similar to a terms of reference extension for subcontracted technical implementation) and reviewing work (e.g. code) developed by local subcontractors. Projects often have to separately subcontract experts for these rather short tasks and the contracting process uses resources.

Development projects often aim at fast implementation and have limited exchange or cooperation with other stakeholders. As such, they take up project resources. Collaboration is frequently key to the long-term scale and impact and is often undervalued.

However, project managers also mentioned that HQ staff lack local insight and therefore they do not see added value in including HQ-based experts. Project 5 expressed concern about a lack of understanding of local cultural and political sentiments, as they differ widely from those of Germany. The project also expressed concern that HQ would not acknowledge the

²² <https://digitalprinciples.org/resource/from-principle-to-practice-implementing-the->

local operational challenges that shape and delay processes. From the project's perspective, technical support should focus on technical issues.

Social media to engage with broader stakeholders

Project 5 highlighted that social media and other outreach measures can contribute to creating a bit of a distance from passive or otherwise unavailable implementation partners, while working towards agreed development achievements.

By focusing on citizen dialogue, a project can open up to additional relevant stakeholders. However, limited partner buy-in can lead to a lack of sustainability down the line.

Using digital collaboration platforms for project coordination

Projects confirmed the strong benefits of increasingly using digital platforms and tools. Overall, they expressed positive work experiences and a significant reduction of coordination efforts and costs since they started using Microsoft Teams.²³

Project 10 considered that, in retrospective, they should have conducted more training sessions through a blended-learning approach. Selected training modules could have been delivered online, which would have saved considerable resources and logistics efforts. The project noted that digital platforms contributed to integrating target groups from travel-restricted areas that could not otherwise be included in regional meetings.

Digital file transfer services were much appreciated

by one of the projects. It was stated that data exchange is especially relevant between the office locations of one project.

Overall, projects expressed their interest in greater flexibility through using the various digital services available or more user friendly GIZ-vouched services. However, they understood the overall reasons for corporate safety concerns and the resulting restrictions.

Using social messaging for coordination

GIZ projects work closely with government partners and other implementing partners. To coordinate operations between partners, social messaging services like WhatsApp or Telegram are widely used. Online services were mostly used for informal coordination, follow-ups or social networking. A printed document or email was used for decision-making, agreements and other exchanges that needed to be documented. Manoeuvring between following rules and addressing partners' needs, and the development of guidelines on this, takes time resources from the team.

Although GIZ rules and regulations do not allow the use of social networks, projects are under pressure to reach their partners in the best way possible. To address this issue, most of the evaluated projects developed internal team guidelines for using social messaging.

The acceptance of today's communication realities and support in mastering them could benefit overall project efficiency. Support activities by HQ could include developing a guidance paper for projects on the use of social messaging services.

²³Most projects were evaluated before the introduction of MS Teams at GIZ. However, this feedback from project managers was deemed relevant for the CSA.

4 Considerations for managing projects with ICT aspects

This concluding chapter considers feedback from interviewees and lessons learnt from conducting the CSA to contribute to further enhancing the integration of ICT aspects into GIZ projects from a planning and evaluation perspective.

The chapter builds on project experiences and lessons learnt from implementing ICT aspects according to the digital principles described in Chapter 4. It focuses on project management-related considerations to further strengthen the impact of ICT-supported solutions.

4.1 Considerations for designing and planning projects with ICT aspects

This section addresses lessons on how a project concept that covers digital aspects can be adequately designed to achieve the objective. The projects that were reviewed discussed the following considerations and experiences associated with a consistent project concept that embraces ICT aspects.

Managing donor and partner priorities on digitalisation and sector strategies

The following aspects related to managing stakeholder priorities are closely linked to OECD/DAC criterion 1, relevance, and its first dimension, alignment of frameworks.

Navigating donor priorities, partner needs and technical best practices

With regard to digitalisation and the use of ICT in projects, the BMZ²⁴ has developed a strategy for modern development cooperation in a world that is digitally transforming. The BMZ's Digital Agenda²⁵ describes the contribution of the BMZ to the German

government's Digital Agenda and provides a guiding framework for implementing digital projects. With a regional focus, the BMZ has further developed its Digital Africa Agenda.²⁶ Sustainable Development Goals (SDG) address ICTs directly in SGD 17 "Partnerships for the goals" and contribute to each of the SDGs as a cross-cutting tool.

Digitalisation has therefore gained traction within the development community over the last five to ten years. With heightened awareness of digitalisation and prioritised agenda-setting, a subsequent expectation from the donor's leadership as spread to sector departments and ultimately to project implementation. In line with the Digital by Default approach and in an endeavour to strengthen innovation in project implementation, GIZ projects report that they have been asked to integrate ICT aspects and 'other innovative approaches' across projects, especially in projects with high visibility.

Project 4 reported a strong requirement by its donor to integrate digitalisation aspects into the project. The project reported that this strong agenda-setting made the project address the partners' needs differently. Thanks to the long-term presence of GIZ in the country, which resulted in strong relationships with national partners and the national government's strong interest in ICT, the project managed to incorporate the various priorities in its concept design. The project noted that additional resources were required to adapt the project concept and to agree whether ICT aspects were to be mainstreamed or linked to an ICT-specific output or project component.

The management of stakeholder priorities and sensible navigation between political and technical impacts is a crucial part of development cooperation. However, digitalisation is yet another (mainstreaming) topic that needs to be accommodated along with other mainstreaming topics and sectoral priorities.

²⁴ All evaluated projects were fully or partially funded by the German Federal Ministry for Economic Cooperation and Development (BMZ).

²⁵ http://www.bmz.de/en/issues/wirtschaft/nachhaltige_wirtschaftsentwicklung/ikt/digitale_agenda/index.html

²⁶ http://www.bmz.de/en/zentrales_downloadarchiv/ikt/06-11-2017_BMZ_Digital_Afrika_en.pdf

Projects put additional effort into assessing how ICTs can contribute to achieving the best possible outcomes. This also leads to enhanced understanding of the application of ICT tools in manifold use cases.

The increased expectation on projects to implement ICT aspects contributes to faster awareness and uptake of innovative approaches in the field. This analysis demonstrates that GIZ and partner staff need time and external motivation to adapt to this new reality.

Projects whose partner/s had a clear digitalisation strategy or a directive to implement ICT-supported measures from their hierarchy were more likely to proactively cooperate, own the process and institutionalise measures. Projects noted that digitalisation efforts were most successful when tied to sectoral strategies.

Project 10 emphasised the importance of extending the project's steering structure by adding the respective ministry in charge of IT and the digital economy as an active implementation partner.²⁷ The project noted that the high visibility and expertise of this ministry's staff contributed to a scalable development approach.

Project 5 built on the country's Right to Information law and was closely aligned with the partner government's priorities. It experienced strong interest in and visibility of the ICT-based measure, a women's empowerment platform, from various partner government institutions including parliament, as the ongoing implementation revealed the measure's potential for scope and scale. However, the implementation partner at low, sub-national level was overwhelmed by the increased pressure and visibility of a potentially sensitive topic and ultimately refused to institutionalise the platform.

Project 3 worked on regionally supporting the insurance sector. In recent years, ICT have become a strategic game changer in this sector. The project decided to promote the benefits of using ICTs in inclusive business developments at regional and bilateral level, instead of implementing an ICT-enabled measure directly in partner countries. Creating greater awareness of the development potential of ICTs across countries was perceived to be highly relevant

by the project to strengthen foundations for sector development.

Project 8 stated that supporting governance structures and underlying mechanisms rely in many ways on ICTs. The project's main achievement with a long-term impact focused on ensuring overall strategic alignment with governance objectives, using ICTs as a means to this end. The project emphasised that the application of ICTs and other technologies is in many ways the state of the art, when the best available tools are used professionally to achieve the best possible development impact for project partners. Digitalisation can thereby be hyped as its own achievement, when in fact it is simply the way to go nowadays.

Planning around stakeholder expectations on ICT and power dynamics

This section is closely related to OECD/DAC criterion 1, relevance (dimension 3) and criteria 2, 3 and 5.

Managing expectations of what ICT aspects can achieve

Projects highlighted that their partners (and at times GIZ project staff) often expected the planned technical implementations to be stand-alone, manageable activities. The degree of coordination, cooperation and alignment between stakeholders within and across ministries is often underestimated. Thus, a technical application that is perceived initially as easy to implement can open a Pandora's box during implementation, and government partners may reduce their commitment.

Project 7 could not implement its planned data management tool. One of the reasons given was that too many people felt in charge and agreement could not be reached. The partner expressed disappointment, as the seemingly simple internal tool was not delivered by GIZ. The partner considered that the reasons for not delivering were not transparent. Expectations of challenges (technical nature) and real challenges (people alignment) were misunderstood.

The partner for the digital mapping tool of project 8 turned out to be rather challenging to work with during implementation. The project argued that in

²⁷ Project added this new partner for the second project phase, which followed the

evaluated first phase.

retrospect they could have been more strategic in understanding the partner and could have better communicated the benefits for the partner to strengthen buy-in. The project argued it could have more thoroughly explained why this tool is a valid option, why it is a strategic approach with additional benefits for the partner, how the partner could reap long-term benefits and what the partner's engagement would be during implementation and beyond.

First, a project should fully understand the potential scope and scale of the planned measure. When ICT aspects are implemented, this is not necessarily always obvious in the piloting stage. Often, feedback from experienced GIZ colleagues who have implemented similar projects can be beneficial. Second, creating a clear understanding of the milestones and the underlying operational plan of the planned measure with the partner early on can ensure their continued buy-in. Navigating this terrain is sensitive for projects, as they do not want to intimidate the partners with perceived overcomplexity. When (stand-alone) ICT-supported projects/measures are implemented, project and partner staff seem to focus very much on technical implementation, which is perceived as key and less sensitive/political.

Understanding the motivation for partners' engagement in ICT-enabled measures

Motivations for engaging in project cooperation with ICT aspects can be multi-faceted and not always technical or objective. They do not necessarily represent the entire partner organisation but could be individual or group motivations. While this is true for all development projects, ICT projects can rather quickly affect power dynamics in organisations or change transparency requirements.

Project 6 helped implement a website that had been agreed on as a requirement for all member states of a regional convention. The website was already built but not in use. The project aimed to retry, following the suggested regional top-down approach and using the pre-agreed regional partner. However, it did not find out why the first attempt was not appreciated. During implementation, the project found reasons that led to this situation including a government-driven top-down approach aimed at weakening a strong national civil society organisation, visibility and power considerations of the partner's staff, a limited national sharing culture, and perhaps also the fact

that an inactive website checks the box for partners in complying with the convention's requirements. In short, the failure of the first website that was built was not primarily of a technical nature, as assumed.

GIZ projects implementing digital aspects should be aware that rather technical measures often require experienced people and considerable organisational management skills. It has been said that most ICT-enabled projects fail because of people, not technology (see, for example, project experiences regarding conceptualisation, partner expectations or human capacities throughout this report).

Addressing gatekeeping aimed at retaining a traditional status quo

Managing gatekeepers can be crucial, especially for projects supporting digital processes.

These gatekeepers can be located at lower hierarchical levels, as project 9 experienced. While project agreements were made and buy-in was developed at director's level, the digitalisation process was not supported by field staff who carried out what is still an analogue procedure.

Digitising mechanisms frequently entails an overhaul of the process itself. Intermediaries or gatekeepers are often cut out due to direct access to the digital format. This affects power dynamics and potential informal income sources. Very often, reasons for blocking a project can be simply a certain fear of or inflexibility to change.

Understanding who gains from which process (informally) and which fears and possible rumours are circulating is crucial and typically requires closer engagement by local project staff.

Conceptualising ICT aspects of projects

While there was no project under evaluation that fully focused on a digital service dimension, all the projects that were evaluated integrated certain ICT aspects in their overall offer. Their scope and scale varied substantively across projects. This section is closely aligned with OECD/DAC criterion 1, dimension 3.

Setting up a tech-affine steering structure

The use of ICT is still seen as experimental by

some partners. The right composition of the project steering committee can help ensure partner buy-in and high-level coordination in case of implementation challenges.

Project 10 emphasised the importance of extending the steering structure by adding the respective ministry for IT and the digital economy as an active implementation partner.²⁸ The project's school transport system warranted agreement from the prime minister. Due to the strong ICT aspect of the measure and the involvement of local digital service providers, the project extended its steering structure for the second phase after realising the need to include this specialised ministry partner during the first phase under evaluation. An important strategic consideration of the project was that three aligned ministries, each representing their core expertise, were in a stronger position to push the project through the Prime Minister's Office than one or two line ministries. Clearly, aligning a larger number of ministries in the first place can be challenging in other project contexts. In this case, the project emphasised the crucial role of GIZ as facilitator, pushing ministries to collaborate and to deliver, rather than delivering on their behalf.

Project 9 further highlighted the importance of including all affected stakeholders actively. The project explained that it partially missed the opportunity and faced unexpected barriers from gatekeepers.

Expanding on this input, competing ministries or ministries sharing mandates for the measure need to be identified early on and addressed during appraisal. Sector-focused activities typically have more clear-cut mandates than ICT-based activities. An informed decision can be taken on whether or not to include them in a steering structure.

Managing ICT aspects as core work streams

Projects reported that they are working on numerous work streams. They noted that the ICT aspects under evaluation constituted only a fragment of the overall project. Evaluators at times expressed concern that projects tend to be overloaded with work streams that address different stakeholders and can only build on each other in a limited way.

Within these project realities affected by political and technical decisions, the impact and scale of ICT

measures can be limited. Planning ICT pilots and their scale up in one measure could contribute to a higher success rate of the ICT measure, as many pilots fail during scale up.

Integrating ICT aspects in the project brief and proposal²⁹

The existing formats could be extended by adding a brief statement on ICT aspects, possibly under the instruments³⁰ section. Ideally, template sentences with a drop-down menu (to choose the type of ICT aspect) could be provided to allow for a structured, high-level description of the ICT aspects under consideration.

Providing ICT-specific guidance to appraisal teams

Planning and evaluation experts can benefit from guidance on how to best address ICT aspects (see further details in Section 5.3).

²⁸Project added this new partner for their second project phase, which followed the evaluated first phase.

²⁹Kurzstellungnahme (KSN) and Modulvorschlag (MV) in German

³⁰Instrumenteneinsatz in German

4.2 Considerations for implementing projects with ICT aspects

Adapting projects' ICT aspects during implementation

This section reviews how projects managed to adapt ICT aspects during project implementation. It is closely related to OECD/DAC criterion 1, dimension 4; and criterion 2, effectiveness.

Redefining ICT-supported measures

A comparatively large number of the evaluated projects submitted change offers during project implementation to adapt the approach of the ICT-relevant measure.³¹

The reasons for these change offers can be roughly grouped into two categories: projects with indicators that could not be achieved and projects that realised there was a need for ICT aspects during implementation, which could not be accommodated in the original results model. Other projects had a results model with more leeway and simply added the ICT-supported activity without a formal change offer. The project still required time from the re-evaluation of the situation to the re-prioritisation or change of priorities and the re-organisation of activities accordingly.

Project 4 reported that appraisal, inception and change offers took up a large amount of time that was then not available for implementation. However, the project benefitted from the change offer process as it was used to conduct a detailed context analysis and develop realistic, measurable indicators. The project ultimately addressed ICT aspects across all three components in different ways.

Project 1 found that the initial project concept did not fit local realities and therefore felt the need to adapt the project concept and its results model. The project explained that it preferred a concrete output indicator over a more general one (for example, a platform is in place).

Projects benefit from re-evaluating and clearly defining their approach, although this also reduces resources for implementation. Overall, the option of

adapting to a dynamic work context is important, and even more so when working with ICTs.

Achieving indicators and delivering impact

Most of the projects experienced delays in implementation. Frequently, the implementation of ICT-related aspects was delayed due to the numerous challenges associated with implementation. Most ICT aspects of the projects that were reviewed were started late in the project. To ensure that the project was positively evaluated,³² the achievement of indicators was prioritised as this was the perceived minimum requirement.

Project 10 stopped supporting students and young innovators after conducting the required number of workshops. There was no time for follow-up before the end of the project. Participants felt abandoned and disappointed, since they were prepared to build up their engagement in the workshops.

Towards the end of implementation, projects cannot submit a change offer and have to decide at times between meeting indicators or explaining why the indicators have not been met while they are addressing exit. The first option increases the possibility of a following project during which these processes could be picked up. Therefore, the next project (either designed in the spirit of a follow-up or as a different project) appears to be the preferred exit strategy for successful project measures and activities (see also sustainability and the exit strategy).

Developing tech-affine managers and IT skilled staff

ICT-supported projects clearly benefit from staff with IT-related expertise and experience. While sector experience is always crucial, specific IT skills are typically much less transferable than other skills. Projects that had recruited well-skilled staff attributed much of the responsibility for good implementation to them. Projects that lacked such human resources stated that skilled and experienced staff in what may be niche areas can be highly valuable. Strategic decisions on ICT-related measures are crucial to define whether the project is likely to achieve its objectives. The efficiency and effectiveness of the measure strongly depend on the strategic approach and the

³¹ This evaluation was not informed about the actual percentage of all GIZ projects that submit change offers. It relied on overall project experience in this statement.

³² Following the assumption that project success is measured by achieving indicators.

overall implementation management.

Naturally, projects are not always in a position to recruit the required talent. Local ICT experts often work in the private sector or abroad (recruiting them can even contribute to inflated salaries and market distortion) and projects have a limited candidate pool. Project managers bring along other core expertise and experience that is crucial to the project. A lack of niche expertise in complex ICT projects can limit the project's success.

Projects could receive coaching and guidance from HQ's Digital Society competence centre at strategic and operational level to help implement complex ICT solutions. Often, projects are unaware of this option (it exists to a certain degree in the Sectoral Department) or do not know who to address. In addition, projects find that HQ engagement can take additional time resources.

4.3 Considerations for evaluating projects with ICT aspects

Linking digital principles with OECD/DAC evaluation criteria

This CSA aimed to establish a link with the structure of the OECD/DAC evaluation dimensions used in CPEs. Unlike CPEs, the CSA aimed to generate learning from project experiences, not to evaluate project success as such. Less than ideal project experiences area powerful source of learning.

By cross-referencing learning opportunities from the implementation of digital principles in projects with the OECD/DAC criteria of relevance, effectiveness, impact, efficiency and sustainability, evaluators can evaluate projects' ICT aspects in a structured, in-depth manner.

All 9 digital principles affect the OECD/DAC dimensions, as shown in Figure 3. The categorisation is based on a general project approach, derived from the project samples that were reviewed. Specific project approaches or technologies applied in other projects could change how far digital principles implemented by a specific project affect OECD/DAC criteria, and in which way.

The ICT projects that were reviewed showed that ICT project aspects affect the OECD/DAC criteria in the following ways.

Relevance

Integrating ICT aspects into the project design increased the overall relevance of most of the projects reviewed. ICT aspects contributed to increasing the alignment with strategic frameworks of donors, as digitalisation has become a high priority item on donors' agendas. About half of the countries reviewed stated that their partner government also prioritised implementing ICT-related aspects (dimension 1).

Two projects were specifically asked to adapt their project concept to ensure implementation of requested ICT aspects and thus further increase the projects' relevance for their partners (dimension 4). The implementation of ICT aspects has a strong need for user-orientation (dimension 2) and all projects considered the needs of their target group to varying degrees. As projects increasingly understand the need to engage the target group even more actively in the design of ICT measures (digital principle 1), these ICT measures tend to contribute to increasing project relevance for the target group. The projects that were reviewed considered that ICT aspects need to be thoroughly understood and conceptualised to be successful. The more ICT aspects are embedded in the overall project design and the more realistically they are designed, the greater their contribution to the relevance score (dimension 3).

OECD/DAC criteria	1	2	3	4	5	6	7	8	9
Relevance	✓	✓	✓	✓	✓				✓
Effectiveness	✓				✓				
Impact	✓	✓	✓	✓	✓	✓		✓	✓
Efficiency			✓		✓	✓	✓		✓
Sustainability	✓	✓	✓	✓	✓	✓		✓	

Figure 5: Relevance of digital principles for OECD/DAC-criteria.

Effectiveness

This CSA highlights that ICT aspects can increase the extent to which a project achieves its objectives and the degree to which all ICT-enabled measures genuinely contribute to these objectives through a focused, realistic concept and the resulting clear objectives. Many reviewed projects struggled with the question of whether to include ICT-focused objectives in the results model and whether and how to define indicators. There is still considerable potential for GIZ projects to develop their objectives and indicators more appropriately, to increase the overall effectiveness of ICT-focused implementation (dimensions 1 and 2). Projects were less aware of unintended results stemming from the implementation of ICT aspects. Research highlights that ICT aspects affect systems and thus can have far-reaching unintended results. GIZ projects could create greater awareness of researching these in future evaluations (dimension 3).

Impact

Impact evaluation of ICT project aspects was seen as challenging by evaluators following the overall evaluation aspects. However, four projects showed an impact generated directly from their ICT-related implementation (dimensions 1 and 2). Unintended impacts (dimension 3) were less understood, like unintended results (see above). Overall, the project that focused on workflows and processes and on supporting ecosystems appeared to have a stronger impact than stand-alone measures.

Efficiency

ICT aspects of projects are primarily associated with their impact on the efficiency criteria. Projects confirmed this perception and reported that ICT aspects enhanced overall project efficiency. The two regional projects in the sample highlighted the benefits for partners in terms of facilitated communication, exchange and reduced travel expenditure. Other projects working on digitising workflows and processes significantly cut time and costs compared to paper-based process. Projects noted that digitally collected and analysed data further enhances efficiency. However, this area has not been sufficiently explored by most projects, despite its potential. ICT-based solutions have been reported to have strong potential to scale. However, projects partially experienced challenges in going beyond pilots during the evaluated project phase.

While this criterion evaluates the efficiency of the ICT solution for partners, every project reviewed referred to efficiency gains in large parts and in an internal project management context. In this regard, social messaging services, the use of collaborative platforms and other ways of digital sharing were frequently highlighted. Projects noted that they use online meetings instead of physical meetings more often, which cuts their expenditure.

Sustainability

The projects that were reviewed understood that institutionalisation by a non-governmental organisation, private company or local government is the ultimate goal in achieving a long-term, positive impact. Three projects also explored developing a business model for the ICT-based solution that has sustainable revenue generation. At the same time, working towards making ICT-enabled measures sustainable appeared to be a challenge for the projects that were reviewed. ICT projects are often perceived to be achieved when the relevant ICT building block is set up. To ensure sustainability, the overall solution needs to be operationalised and projects often ran out of time and could not address these additional work areas. Projects maintained that the sustainability dimension can be enhanced if more time is allocated to implement the overall measure, and if strategies were planned and implemented from the start.

Designing the results model and indicators as a basis for evaluation

While this CSA focused on project evaluations as the prior data source, planning and evaluation processes directly influence each other and cannot be fully separated. Thus, the following recommendations for planning projects with ICT aspects directly affect their subsequent implementation and later evaluation.

Applying lessons from other mainstreaming approaches

The application of some best practices from gender mainstreaming should be considered. Projects could nominate one ICT/digitalisation focal point who receives specific updates, access to guidelines and tools, and insight on GIZ strategies and support structures.

An ICT marker (project planning and appraisal phase) is on the way that will significantly facilitate

planning a project evaluation with an ICT focus. Having data-based evidence on all GIZ projects with ICT aspects can further support project collaborations and sharing of experiences, especially when additional ICT-specific aspects are mapped across projects.

Results monitoring

No project mentioned ICT aspects within the outcome objectives. Two projects had a specific indicator:

- A web platform for knowledge exchange by the insurance industry and the dissemination of knowledge has been put in place.
- The 582 job and training offers posted on a joint online service platform have increased by 50 percent.

A number of projects referred to measures in terms of objectives and indicators that could be achieved with or without ICT support, using keywords such as networks, platforms, training measures or start-up support.

Considering integrating ICT-specific indicators in the results model

The integration of ICT aspects into the results model and the degree of specification of indicators were discussed at length among projects. Perspectives differed widely.

One regional project that focused on development and transitional assistance stated that due to its various engagements across project components and countries, specific indicators could be limiting. In a rather fluid work environment, concrete indicators often lead to project change offers.

Bilateral projects in a known sector that aim to implement a well-known, understood ICT approach could have a more specific ICT-related indicator, projects expressed.

Project 1 had the opposite view: concrete indicators were preferred.

Projects that had specific ICT-related indicators encountered some challenges in meeting them. However, they may have developed a relevant measure or pilot. Projects and evaluators expressed that the indicators did not necessarily reflect whether a measure was successful or not.

Projects maintained that donors appreciate concrete indicators, especially on ICT, due to the increased relevance of digitalisation approaches. This allows donors to obtain higher visibility and communicate specifically on results (if achieved).

While the projects under evaluation worked on ICT aspects, they were all embedded in their sector approach. Projects noted that ICT are supposed to be tools to achieve a certain objective. As enablers, they are therefore the means to the envisioned end. As such, there is no strategic requirement to highlight the technical approach in strategic results models per se. On the contrary, assuming ongoing integration of ICT by default in projects, the strategic focus remains strong in this way. A project should not be planned around a technological approach. Instead, the right technical tool should be selected to achieve the set objective.

Including ICT aspects in indicators

From the perspective of a donor's visibility and an evaluator's analysis, ICT-specific indicators could be considered. However, there are many advantages to integrating ICT through a mainstreaming approach. See a more detailed discussion of this in Chapter 4, relevance dimension 3.

Monitoring and evaluating digital projects

In one project, the management information system that was implemented is being used to collect information and monitor local level planning, budgeting and implementation of development measures supported by the partner. This system is publicly available online. It was significant for the internal project use in terms of measuring the indicator.

Evaluators consulted for this CSA highlighted the need to integrate ICT tools and applications for better monitoring of the project and its partner. Appraisal missions should consider measurement tools when indicators are defined. A number of projects needed a change offer to adapt the indicators.

Adapting central project evaluations (CPE) to include the contribution of ICTs to achieving development objectives

Planning CPEs

During this early approach of integrating ICT aspects

into central project evaluations, ICT aspects were included in the CPE requirements at a later stage (mostly after inception and partially after the CPE mission). Consequently, evaluators could integrate ICT aspects in a limited way in the final CPE.

Future CPEs that evaluate ICT aspects could include concise terms of reference that allow them to address ICT aspects from the beginning, including during the inception mission.

In the spirit of Digital by Default, each CPE could conduct a structured check for relevant ICT aspects to be evaluated prior to the CPE (compare the approach with a simplified gender checklist) or during the inception phase. This would increase the insights into ICT aspects dramatically, as most projects integrate ICT to varying degrees. The suggested checklist could be expanded into an online form or survey or even a GIZ-wide online user-friendly dashboard (see the following chapter on CSA).

Evaluators' ICT capacities

Some evaluators did not have the in-depth expertise and experience to evaluate ICT aspects thoroughly.³³ This would be crucial for a thorough evaluation of ICT aspects. At the same time, evaluators had a number of other relevant qualities that should be carefully considered and weighted against ICT expertise.

An early consideration of required skill sets could contribute to determining the mission team's required capacity for evaluating the respective ICT aspects. If needed, corrective measures could be taken like contracting an evaluator with relevant ICT experience or an additional ICT expert.

CPE evaluators expressed interest in having access to an ICT expert as a sparring partner at GIZ HQ during the inception mission and CPE mission to ensure ICT aspects are adequately understood and evaluated.³⁴

Alternatively, GIZ staff with ICT experience in other functions (e.g. digital project component manager in another country office) could be matched with

evaluators to provide time-limited technical support without engaging in the evaluation itself. 'Seconded' GIZ staff possibly experience support for other projects as empowering, as it gives staff new insights, visibility and learning opportunities. Thorough internal human resources management would be a prerequisite. The existing online staff competence matrix could be extended to serve such a purpose.³⁵

Guiding questions and frameworks could support the evaluators. Most evaluators referred to a lack of in-depth evaluation of ICT aspects. They often registered them and described the relevant activity but did not determine whether digital principles were applied or how these aspects affected the project's impact (see OECD/DAC criteria). The reasons were mainly that the CPE addresses a large number of assessment areas, no detailed analysis was requested and there was a lack of guidance on how to address the ICT-focused evaluation. Evaluators are already working with an extensive list of questions and adding ICT (and perhaps other mainstreaming topics in the future) increases the burden on evaluators to deliver more output with the same time input.

ICT aspects differ widely among projects. To focus evaluation questions while ensuring an in-depth evaluation, one set of guiding evaluation questions could be prepared per ICT project type or category. Evaluators expressed interest in receiving guidance on which aspects to consider for which type of ICT measure, the typical challenges and suitable questions. This CSA follows the Sectoral Department recommendation and suggests describing projects based on the ICT building blocks defined by the Digital Impact Alliance³⁶ (see the list of 23 building blocks in the Annex).

The use of existing frameworks could help evaluators to strategically assess ICT aspects of a project and prioritise assessment areas.

Evaluators stated that they would appreciate practical, directly applicable, workable guidance. Some expressed a preference for online guides rather than PDF-based formats, as the reader can go deeper into content by clicking on further details if necessary.

³³In the current process, ICT implementation details did not have to be evaluated and the additional interviews that were conducted as part of this CSA addressed this to a certain degree.

³⁴An additional benefit of integrating Sectoral Department staff in CPEs could be enhanced information flow between HQ and country offices.

³⁵There are many other benefits of leveraging this competence matrix for more efficient human resources management, including cross-staffing, secondments and in-house expert advisor.

³⁶ https://registry.dial.community/building_blocks

Typically, they did not appreciate the idea of receiving another lengthy, rather explanatory guidance report.

Inserting ICT aspects into the standardised CPE format/structure proved difficult for some evaluators. Some were asked to add a chapter on digital solutions under the OECD/DAC efficiency criterion. While ICT certainly has the potential to positively affect a project's efficiency, ICT aspects can have an impact across various criteria, as this CSA shows. With this understanding, evaluators could benefit from a template that guides them on which detailed ICT aspects to consider in which part of the CPE. Evaluators stated that different ICT building blocks could be linked to a different set of guidance questions (e.g. supporting digital industries is very different from implementing digital training sessions).

This report aims to highlight the relevance of ICT aspects across and beyond OECD/DAC criteria and could serve as a first basis for an example or a template.

CPEs highlighting ICT-relevant content in a marked paragraph per evaluation dimension could significantly facilitate a subsequent CSA. By using a specific text format, a short, ICT-focused excerpt of the CPE could be generated in one click. Considering the extensive format of CPEs, focused summaries could enhance the usability and readability of a highly technical report that requires a certain time and focus to read and digest.

Extent of details and context

Evaluators would appreciate a short guide (for example in terms of reference) on the expected breadth and depth of the ICT-focused evaluation. Evaluators in this first attempt applied their own judgment, which led to a wide range of approaches. Factors like overall ICT expertise, interest in the sector or technologies, time available and challenges with other CPE sections influenced their approaches.

One interviewee noted that the project context is important for evaluating ICT aspects. Guidance on a focused, short context description could thus be helpful.

The text length of the CPE has been mentioned as a limitation from various perspectives. The overall

text of the final CPE stretches to many pages and adding additional topics like ICT aspects to the evaluation further increases the length and difficulty of digesting the evaluation report. At the same time, evaluators are asked to keep the evaluation content to a maximum of 40 pages. This puts evaluators under pressure as they need to reduce content on the standard evaluation in favour of adding content on ICT.

It was mentioned that CPEs could be shortened without limiting the content by streamlining the structure, particularly by merging methodology sections on each criterion into one short section. Avoiding partial text duplications might enhance readability for the target audience.

Duration

The average CPE seemed to have taken between 9 and 12 months. Adding evaluation aspects such as ICT aspects further extends the process. Interviewees mentioned that CPEs become less relevant with ongoing delays, caused by factors including review loops and proofing/editing to ensure flawless publication. Evaluators expressed a need for a time extension for conducting the CPE in the case of extended terms of reference, for additional topic coverage of aspects such as ICT.

Targeted executive summaries

The target groups of the CPE's core audience have rather varied information needs. One project conducted a partner workshop to discuss the CPE results and found that the partner considered that the full CPE report was only workable to a limited extent (see above). Developing executive summaries for the main readership of CPEs including donor/s, GIZ internal structures and the partner/s could help to make the best use of the evaluation.

Cross-referencing and dynamic formatting could highlight selected paragraphs to automatically create a draft for these focused summaries (see above on ICT-focused evaluation).

Summaries for donors could emphasise value for money, indicator achievement and donor priority topics, whereas summaries for partners could emphasise the partners' role and ownership, best practices and visibility contributions, partner priority topics, and handover to partners for scale/continuation.

It has been noted that CPE structure and presentation of content in the overall approach are not highly relevant to partners and would need to be further restructured to be relevant. In addition, one evaluator suggested further developing short summaries for various partners, as they often address rather different project aspects.

Conducting future cross-sectional analyses (CSA) on the contribution of ICTs to achieving development objectives

Relevance

The overall strategic decision to gain better insight into implementation experiences and lessons learnt from projects that implement ICT aspects has proved highly relevant for a variety of target groups. An annual CSA should be carried out on ICT project aspects. The CSA could be further enhanced by considering the following lessons derived from this first CSA in the ICT context.

Evaluation sample screening

A mini survey or the first part of a longer survey (see below) could be used to screen projects according to their relevance in a sample for an ICT-focused CSA (for example, 'Continue to the second part of survey, if your project ticks four out of five boxes'). Ideally, the survey could be administered at the stage of conducting the CPE, to provide evaluations with a first overview of relevant ICT-related topics. Some projects with ICT aspects did not get the opportunity to implement these aspects in the project phase under evaluation. In this case, other projects might be better suited for an in-depth ICT-focused evaluation.

ICT checklist or dashboard

Regarding the potential benefit of using an ICT checklist to plan a CPE, the same checklists from projects to be evaluated through a CSA could provide an excellent overview and description of the project sample. Such a checklist could be based on a simple online form, which could replace the aforementioned survey.

If suggested ICT checklists have not been used in previous work streams, they could be applied either as a written form to be filled out by the evaluated projects or a structured interview guideline.

The checklist could be made available as an online

form or as a dashboard (see above). Consequently, the results could be aggregated and displayed automatically. Cross-sectional analyses across topics could thoroughly benefit from a dashboard.

Overall, a GIZ-wide online user-friendly dashboard that provides detailed information on projects based on online forms could be efficient for CPEs and for an overall corporate quantitative and qualitative analysis, to extract lessons learnt from related projects (by region, topic, marker, partner type, challenge, etc.). Certain project aspects could be filled out by head of project planning then the project manager/project staff, and others by evaluators.

Sample size

CSAs results are more thorough with an increased sample size. Qualitative CRA results are not very time sensitive and projects implemented during a certain period (for example, five years) can be combined into one larger sample. With an established way of integrating ICT aspects into CPEs, the sample size of available CPEs with ICT-focused contents will become available.

As sample sizes increase, classifications of the type of ICT aspect could be used to create subsets of the overall sample, to add in-depth qualitative insights.

The larger the sample, the more extensive the analysis. A larger set of established criteria (deductive analysis) with the flexibility of adding a smaller set of new criteria during evaluation (inductive analysis) could aid the overall analytical approach. This CSA highlighted experiences and lessons learnt that reoccurred in most of the projects that were evaluated. The analysis contributed to identifying projects' typical pitfalls and can help to create learning around them.

Evaluability

Projects that include ICT aspects in their results model and indicators will be evaluated to a certain degree even without a specific request for an ICT-specific evaluation. However, projects that mainstream the use of ICT throughout the project will be likely to be less thoroughly evaluated, due to the missing indicators for evaluation in CPEs.

Interviews were crucial to deepen and broaden the information covered by the CPEs. Having a semi-

structured approach allows the interviewer to address each project accordingly (which is highly useful, considering the variety of projects).

Online survey

To increase interview efficiency, a short online survey with closed questions should be sent to projects that are under evaluation prior to interviews. This would allow the interviewer to better focus on relevant areas during the interview. In addition, it would enable a simple comparison among projects (for example, '4 out of 10 projects follow an open source approach') at low effort. Ideally, the survey could be applied at the stage of conducting the CPE, if suitable.

Coding derived from inductive and deductive methods proved highly useful. Future CSAs have the benefit of building up on previously developed codes and can sharpen their focus on deriving overlooked, relevant codes in an inductive manner.

Comparative analysis software

The larger the project sample and the number of codes analysed, the more beneficial could be the use of a grid or qualitative analysis software such as MAXQDA. This evaluation with a sample of a rather small number of 10 projects greatly benefitted from applying software-supported analysis.

Reviewing collaboration with the Sectoral Department to put CSA results into a wider project context proved highly beneficial. Interestingly, project experiences and challenges are fundamentally comparable when they are taken out of their local contexts.

A review of the draft CSA by participating projects in future CSAs could contribute to ensuring an accurate representation and degree of generalisation of the projects that focuses on lessons learnt rather than pointing out challenges and pitfalls. An added benefit could be a responsive two-way communication loop between HQ and field projects (advocated as one recommendation in this report).

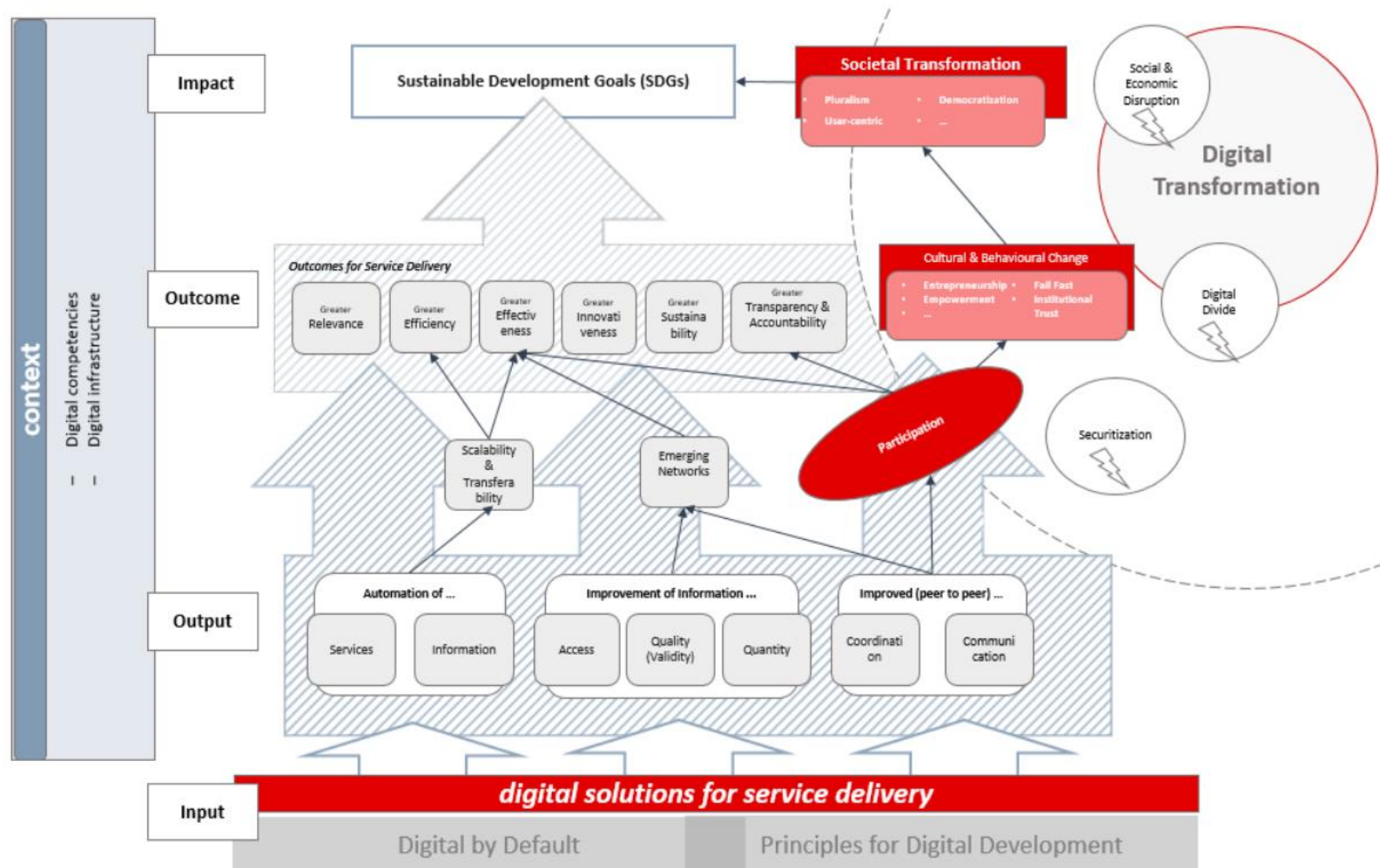
Annex

Annex 1: Digital Impact Alliance (DIAL) Building Blocks of Digital Solutions

DIAL differentiates to date 23 different ICT building blocks for ICT development measures. GIZ has supported the Alliance and applies the building block approach into differentiating GIZ projects. Therefore, this CSA applies the same.

DIAL ICT building blocks	
1	Client case management
2	Consent management
3	Content management
4	Data collection
5	Digital registries
6	Identification and authentication
7	Information mediator
8	Payments
9	Registration
10	Reporting and dashboards
11	Security
12	Shared data repositories
13	Workflow and algorithm
14	Messaging
15	Mobility management
16	Scheduling
17	Collaboration management
18	eLearning
19	Terminology
20	Analytics and business intelligence
21	Artificial intelligence
22	Geographic information services (GIS)
23	eMarketplace

Annex 2: HDSR Theory of Change (ToC)



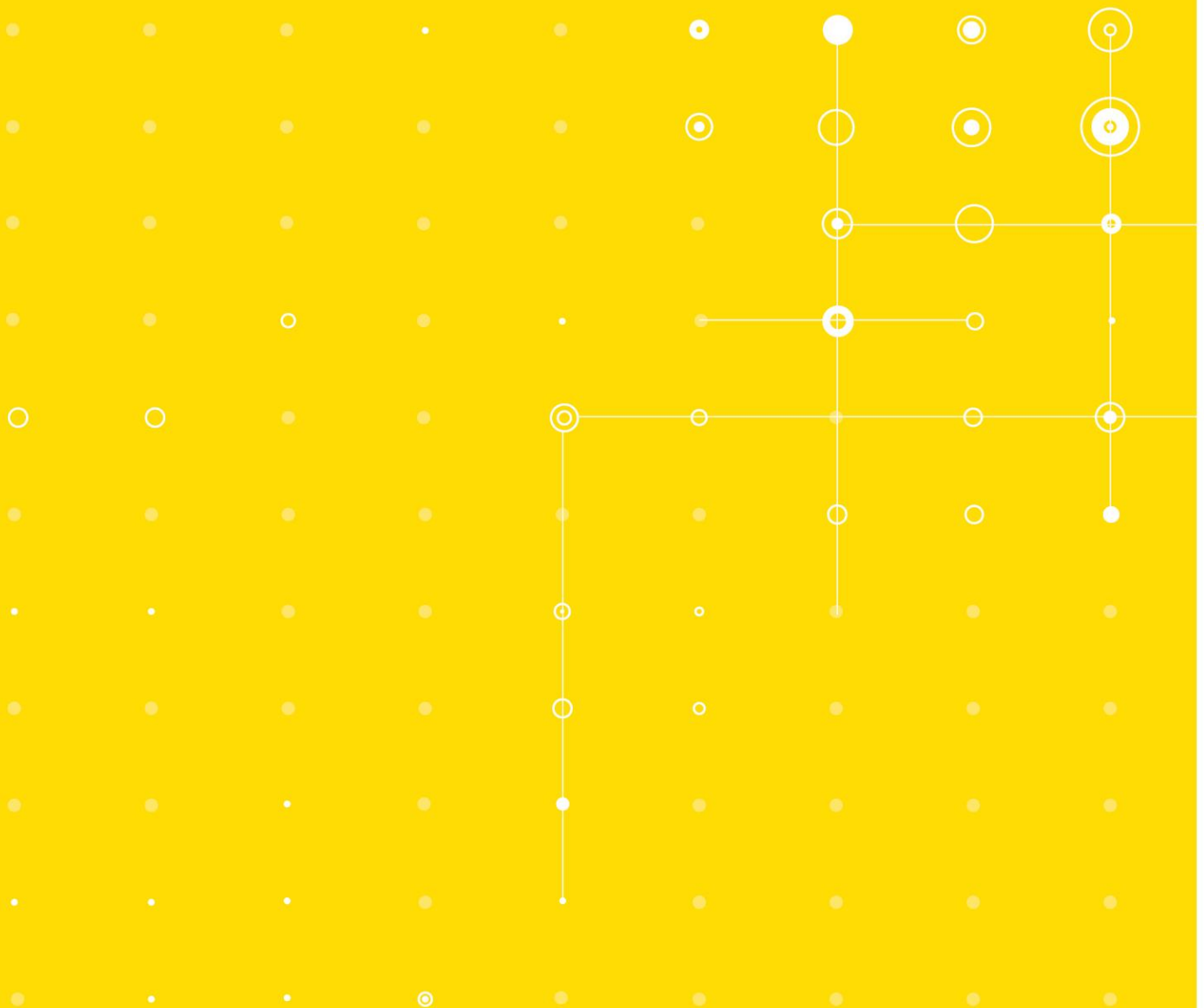


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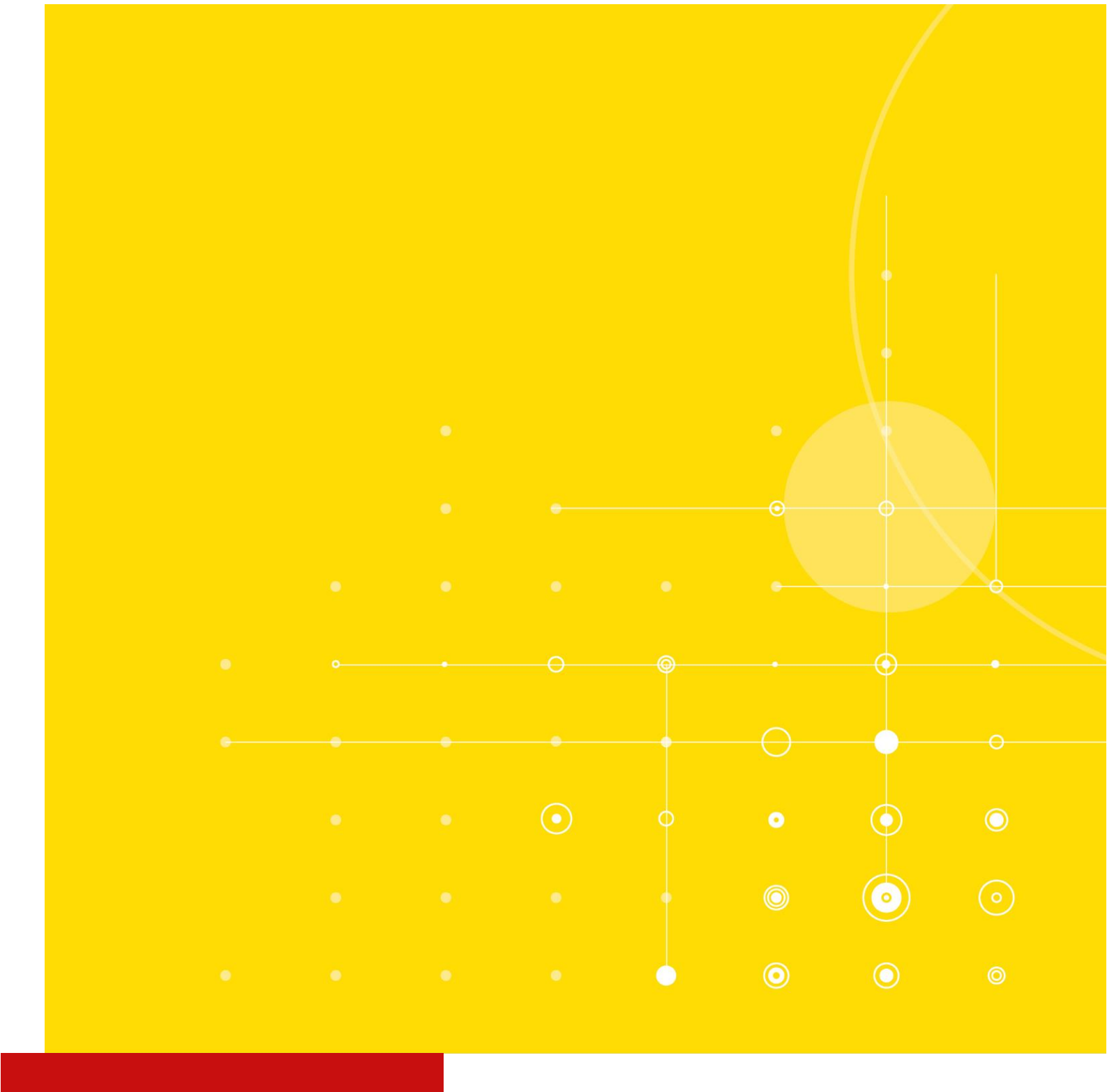
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