

A RESEARCH DESIGN FOR CREATING A DIGITAL TRANSFORMATION MATURITY ASSESSMENT TOOL FOR DEVELOPMENT NGOS

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ABSTRACT

This paper explores a research approach for creating a digital transformation maturity (DTM) assessment tool specific to development NGOs. This paper focuses on the initial phase of the co-creation approach for such a tool with practitioners of these organisations. The process ensures relevance and adjustment to appropriate and understandable language for development practitioners. Rigour is ensured later through a detailed literature review on the concept of digital transformation of development NGOs as a specific group of non-profit organisations. We present the findings of the first phase of the research with the evaluation of five digital maturity assessment tools for non-profit organisations. This paper contributes to setting out design criteria for a quick & shorter digital transformation maturity assessment more focused on the context of development NGOs. This quick scan will help development NGOs decide on the next steps, like the choice for more detailed measurements. Secondly, we identify a possible shortcoming of current DTM tools that are not linked to the development paradigm and strategy of the NGOs. We conclude the evaluation by reflecting on limitations and the need to adjust DTM assessment tools to organisational development paradigms and goals of NGOs, suggesting the need for future research.

KEYWORDS

Digital Transformation, Digital Maturity, Development NGOs, Non-Profit Organisations, Digital Development

1. INTRODUCTION

International development NGOs operate in a fast-changing environment. The work of international development is changing in the face of the advent of various digital technologies leading to a digital transformation of the sector. Development NGOs try to make sense of these technologies on if and how to implement them in their development projects based on the organisational capabilities. This paper describes the approach we have taken to develop a practical and easy-to-use assessment tool for practitioners for the level of maturity of the development NGO's digital transformation. The research question addressed is how can we design an appropriate digital transformation maturity tool to assess (Dutch) development NGOs quickly? With this study, we contribute to the knowledge of digital transformation in the organisational context of development NGOs and on practical requirements for developing a quick scan for digital transformation maturity assessment. The paper first addresses the nature of development NGOs and a practical concept for digital transformation. Then it describes the research design process we take for co-creating an assessment tool on digital transformation maturity for Dutch development NGOs. The results of the first phase of that process are presented in the Results chapter, followed by a short conclusion and explanation of the next step of the ongoing research.

2. DEVELOPMENT NGOS AND DIGITAL TRANSFORMATION

Non-governmental organisations (NGOs) are active players in international development, both as providers of aid and services to underprivileged communities and policy advocates (Davies, 2018). NGOs have the following characteristics: *institutionalised organisation, separation from the government (non-state),*

non-profit, self-governing, and often have some degree of voluntary participation in their activities (Brunner, 2019, Davies, 2019). Development NGOs are considered a subset of organisations belonging to the non-profit sector (Northern Bridge, 2019). They are recognised as important actors in the landscapes of international development, humanitarian action, human rights, the environment, and many other areas of public action (Salamon and Sokolowski, 2016).

The concept of Digital Transformation has many definitions. For this Digital Transformation Maturity tool development, we start with an existing one used by practitioners in the (non)-profit sector: *"Digital transformation is the process of determining and implementing policies, increasing staff capacity, and specific technology systems which allow organisations to deliver their services with greater impact for the individuals they serve, their own decision-making processes, and policy decision in their communities"* (Techsoup, 2022). In a follow-up paper, we will further explore and carefully define Digital Transformation for development NGOs. As stated in the Introduction, development NGOs want to know where they stand at their digital transformation level and what the next step means. This implies knowledge of the digital transformation maturity level. A maturity evaluation means the ability to (self-) assess an organisation's digital capabilities and identify the growth trajectory for further developing the capabilities (OECD, 2021).

In the Method chapter, this short paper presents the steps to design a DTM quick scan that assumes this starting definition and how insights from an academic literature review are later compared and synthesised to an updated definition of digital transformation *for development* suitable to development NGOs.

3. METHOD

The digital maturity assessment tool is developed with the Dutch development NGOs and their (overarching) representative association Partos. There are approximately one hundred Dutch development NGOs (Partos, 2012). Development NGOs try to make sense of the possibilities and issues digital technologies bring when adopted in international development projects and their organisational operations. Therefore there is a need for better situational awareness of where an organisation stands and what can be done next if the development NGO pursues to increase the capabilities in using digital technologies for their organisational goals (i.e. maturity). Maturity assessment tools are not uncommon in the development sector for evaluation of, for example, the monitoring and evaluation of development project performance.

We outline the entire research approach, from which this short paper covers the first phase. As an initial step, as shown in Figure 1, we have conducted desk research to identify Digital Transformation Maturity (DTM) assessment tools currently used by non-profit organisations across the globe. Our approach is to work from the practitioners' perspective and develop a tool that addresses both practical relevance and academic rigour. This aligns with applied research where practical solutions are sought for existing problems. Furthermore, starting from understandable and sometimes familiar tools for the development NGOs improved the approval of this applied research process ensured willingness to participate in co-creation and testing of the Digital Transformation Maturity (DTM) assessment tool by the involved practitioners of the development NGOs.

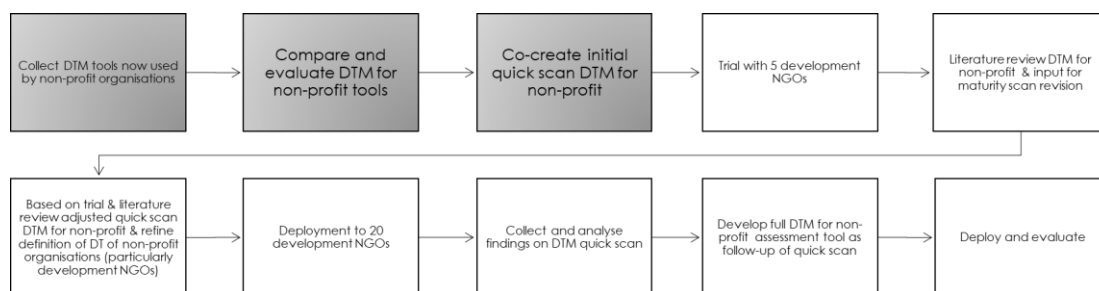


Figure 1. The full applied research approach for developing a Digital Transformation Maturity assessment for Development NGOs, from which this short paper only covers the initial phase depicted by the three grey boxes

The process approach has both elements of a design science approach where the three grey boxes discussed in this short paper cover the 'design cycle' (Hevner et al., 2008) as well as design thinking (Razzouk and Shute, 2012) in the way it approaches a 'wicked problem' of getting grips with digital transformation maturity (DTM) while designing and co-creating together with the intended users an appropriate prototype of a quick scan DTM tool for development NGOs in a short time. The trial and later field test with 20 development NGOs are related to the 'relevance cycle' of design science. In contrast, the rigour cycle is linked to the academic literature review, the resulting adjustment of the digital transformation maturity (DTM) tool, and, more precisely, the concept of Digital Transformation for development NGOs.

The scope of this paper is the three grey boxes. In this phase, the co-creation workshop sessions were preceded by time-intensive desk research and comparing and contrasting existing DTM tools in the non-profit sector. One of the tools to be evaluated was suggested by representatives of the Partos association of development NGOs., who wished to explore the possible use of Digital Principles for Development (further explained in the Results chapter). These representatives from the Partos association and the participants from the pilot group of development NGOs are all active in working groups on data for development and therefore were sufficiently knowledgeable and interested in measuring digital transformation maturity. From the onset, the common goal was clear: creating a short, easy-to-understand, quick scan in a format the development NGO practitioners are familiar with. Five co-creation sessions were used to get a common base on what is out there and what the development NGOs want to achieve with a quick scan instrument. After condensing the list of questions to approximately thirty to forty, more emphasis was put on merging questions that were asking topics close to each other and reformulating them so that they were more understandable to development practitioners instead of information and data specialists. The next chapter presents our findings.

4. RESULTS

In this chapter, we summarise the results of our desk research on Digital Transformation Maturity assessment tools used by non-profit organisations and what would be appropriate for a quick scan tool for development NGOs. We start with an overview of tools often used by non-profit organisations, as shown in Table 2.

4.1 Evaluation & Quick Scan Design Criteria

The desk research for Digital Transformation Maturity tools was conducted in English. Based on the characteristics of the Dutch development NGOs, we observed that specific tools used by Northern-based non-profit organisations could be included in our evaluation. The initial requirements we received from the association of development NGOs, Partos, were that the tool should be in English (most NGOs internally used English as their communication language one development projects), explore the usefulness of the Digital Principles instrument, assess the appropriateness for the development sector in cross-boundary and geographically remote activities, and use understandable language for the development practitioners. We identified the following design criteria for the quick scan for digital transformation maturity self-assessment:

1. The quick scan (in English) should not take more than 20-30 minutes. The surveys' experiences also provide a preferred length of the quick scan tool consisting of not more than 25-30 questions or statements to keep the time for filling in less than half an hour.

2. All digital transformation aspects are covered: process, people, technology, and digital leadership and organisational culture. The leadership-related questions from the IFRC model seem to be a helpful addition.

3. Questions should address a mix of operational, tactical and strategic levels; even a quick scan should address the digital transformational aspects on all these levels at the development NGO.

4. There should be a focus on the primary process of international development NGOs, thus the development projects in Global South countries, rather than the back-office and secondary processes of development NGO. The NGO Reference Model provides a common approach by defining standard business processes for the non-profit sector and allows them to plan for their digital future. This may result in additional questions regarding positioning Digitalisation or Digital Transformation efforts in the NGO's 'Primary activities' or 'Enabling activities' (Snow et al., 2016).

5. Include parts of the core tenets of the Digital Principles – the elaboration of the meaning of the nine principles- in the quick scan questions or their explanations (Principles, 2019). That means a more succinct explanation of the digital principles helps practitioners better understand the quick scan.

6. The language or phrasing of questions should be such that development practitioners can quickly grasp the meaning.

4.2 Comparison of Digital Transformation Maturity Tools

Starting from the suggested Digital Principles for Development self-assessment tool, these principles are as stated on the website (<https://digitalprinciples.org/about/>): "a set of living guidance intended to help practitioners succeed in applying digital technologies to development programs". Right now, there are nine principles: Principle 1: Design with the User; Principle 2: Understand the Ecosystem; Principle 3: Design for Scale; Principle 4: Build for Sustainability; Principle 5: Be Data Driven; Principle 6: Use Open Standards, Open Source, Open Data, and Open Innovation; Principle 7: Reuse and Improve; Principle 8: Address Privacy and Security; Principle 9: Be Collaborative. The principles are not considered compulsory measures but can be seen as recommendations supported by the experiences of practitioners in the development sector, nor do they have to be adopted simultaneously (Waugaman, 2016). Although these principles do not directly point toward digital transformation maturity assessment, this self-assessment tool can be modified to cater for that purpose. The tool is published under Creative Commons, which makes modifications possible. Such a modification needs to incorporate the strategic aims and vision of development NGOs (so it should be possible to 'personalise' the outcome goals when plotted on the nine principle themes, helping an organisation choose what to focus on. Furthermore, when we analysed the around 83 questions of the survey, the three-answer options for the questions are relatable to the maturity levels of digital maturity models, namely the beginning level 1 Initial: Processes poorly controlled and reactive; via level 3 Defined: Processes characterised for the organisation and is proactive; to level 5 Optimised/Transformed: Focus on process improvement. The tool, however, does not delve deep into the so-called organisational or strategic digital leadership capabilities needed to go from one level to a higher level.

The second tool we evaluated is the TechSoup Digital Assessment Tool (DAT). The tool website states that the DAT is designed to guide the organisation "along the path to digital resiliency". Interestingly the tool has a kind of introductory assessment consisting of only 20 questions. This may provide some clues on the state of matter for the organisation, but further investigation requires one to fill out an extensive survey that needs the knowledge of multiple professionals within the organisation. This is actually a realistic approach as not all required information is available to one person for this kind of self-assessment. The tool seems to be more focused on a digitalisation step-by-step approach rather than a holistic assessment of digital transformation.

The NetHope Digital Non-profit Ability (DNA) Assessment is the third tool we evaluated. It states that it is an assessment of readiness for digital transformation. The survey covers Readiness, People, Process, Technology, and Data & Investment. The DNA tool fits well with these topics for a digital transformation maturity framework. It has four quadrants that describe possible states of digital transformation. The actual questions of the survey may put off respondents as there are too many repetitive questions -each question is repeated four times- focused on different organisational levels), and could be misinterpreted by development practitioners whose first language is not necessarily English.

The fourth tool is called IFRC Digital Maturity Framework. This is developed by the International Federation of the Red Cross Red Crescent (IFRC), specifically designed for use on a national level by the 192 Red Cross and Red Crescent National Societies (NSs). The framework is aligned with the IFRC Digital Transformation Strategy document published in 2021, which presents a roadmap for digital maturity improvement. The language of the five maturity levels has been adapted to the language and jargon used by national organisations. The survey questions cover all significant processes, leadership and an organisational culture assessment. The tool itself is not specifically development-goals oriented but valuable for non-profit organisations. It provided examples for formulating goals for a digital strategy.

Table 1. Overview of evaluation of Digital Transformation Maturity assessment tools used by non-profit organisations

Tool	Digital Principles Self-Assessment	Techsoup Digital Assessment Tool (DAT)	NetHope Digital Nonprofit Ability (DNA) Assessment	IFRC Digital Maturity Framework	Toolkit 2.0 – Digitalisation in Development Cooperation
Goal	Assessing awareness & use of the Digital Principles	the DAT is designed to guide your organization along the path to digital resiliency.	The Digital Nonprofit Ability (DNA) Assessment for readiness for digital transformation	The digital maturity framework aims to measure for continuous improvement of operations through the application of data analytics and digital technology	Evaluating Digitalisation in development projects.
Survey size	83 questions over 9 Principles domains	Introductory assessment is 20 questions, but many (100+) questions for specific categories. These can be delegated to colleagues.	Many (89) questions covering Readiness, People, Process, Technology, Data & Investment	50-60 questions/statements with 5-level range (beginner/basic to expert/future proof) for each.	Over 80 questions and checklist statements.
Pros	Easy to understand principles, benchmarking with a large group of NGOs worldwide. Useful when organizations want to go ahead with Digital Principles. Aligns with prior communications by Partos on these Principles.	Provides Digital Capability Score and a recommendations that can help improve organisational capabilities. Assesses along common maturity roadmap.	Fits well with topics of digital transformation maturity frameworks. DNA has four quadrants that describe possible states to digital transformation.	Covering all processes. Leadership & culture assessment	Digitalisation in development context.
Cons	The survey seems to focus on the level of engagement in implementing the Digital Principles. However, this can be modified toward digital transformation. Lacking a bit on organisational or strategic digital leadership capabilities needed.	It has a mechanist approach to DT, by stipulating tactical goals as a starting point, for change in technology, people's procedures of working etc. Results present steps to digitalisation (not transformation) and TechSoup services offered.	Too many repetitive questions (each question is 4x repeated) focused on different organisational levels; these may put off the respondents.	Not specific development-goals oriented, but useful for non-profits.	Focuses on digitalisation on the project level, not on maturity at an organisational level.
Remarks	Published under Creative Commons, so adaptations are allowed. Additional tools like Business Model Sustainability Toolkit	Next to the Principles, this model could be suitable for Partos members.	Has also (Data) Digital Skills Framework for the Nonprofit	Helps with formulation goals for a digital strategy	Toolkit developed by German Federal Ministry for Economic Cooperation and Development (BMZ)
Website	https://digitalprinciples.org	https://assessment.techsoup.org	https://nethope.org/toolkits/digital-skills/	https://www.510.global/the-digital-maturity-framework-establishing-a-collective-vocabulary-for-digital-transformation/	https://www.giz.de/expertise/downloads/Toolkit-2.0-Digitalisation-in-Development%20Cooperation.pdf

The fifth toolkit we discuss in this evaluation is developed by the German Federal Ministry for Economic Cooperation and Development (BMZ) and is called Toolkit 2.0 – Digitalisation in Development Cooperation. The toolkit focuses on evaluating digitalisation in development projects and, as such, is not primarily looking at the digital transformation maturity on an organisational level of the development NGO. It does use language related to digitalisation in a development context. The survey length is over 80 questions and contains some checklist statements. The first tool we discussed actually highlights the use of open-source technologies or project team digital literacy capabilities.

With the before mentioned criteria in mind, the five tools were evaluated and a quick scan pilot survey of approximately 25 questions has been developed. Based on this evaluation of the five digital transformation maturity assessment tools, we suggest constructing a quick scan based on the Digital Principles Self-Assessment tool, but drastically reduced and the principles directed to targets set for maturity level goals attuned to the specific development NGO. We added questions on digital leadership, inclusiveness, data bias and decolonisation of data and technologies, relevant for certain development paradigms that we found lacking in all evaluated tools. We are going to test this (prototype) quick scan for digital transformation maturity assessment with a small group of development NGOs and the Partos association. The results of this are going to be discussed in a follow-up paper.

5. CONCLUSION, LIMITATIONS, AND FUTURE RESEARCH

This paper has provided a possible design approach to the research question of how we can design an appropriate digital transformation maturity tool to assess (Dutch) development NGOs quickly. The step-by-step approach, as outlined in this paper, includes co-creation activities with the target users (representatives of the development NGOs) and uses elements of design thinking and design science methods to design and develop a quick scan assessment tool on digital transformation maturity for development NGOs while combining relevance cycles and rigour cycles in the process. This ensures a balance between the needs of the practitioners at development NGOs for a quick scan on one side and rigour by the academic literature review and analysis to develop a precise concept of Digital Transformation for Development NGOs, which is

somewhat different from a study on Digital Transformation for Development (DX4D aimed the end goals of development), e.g. Heeks et al. (2022). A possible limitation in a co-creation approach may be the subjectivity or choices made for selecting questions for a quick scan. We tried to mitigate this by remaining close to the nine principles and seeking to formulate questions similar to the original survey improving their readability to a larger audience of development practitioners. In that sense, the participants acted as proofreaders. The co-creation approach may introduce a bias in the tool, as the perspectives and opinions of the participants may influence the final product. Therefore, we encourage the authors to address this limitation. An observation from our evaluation of the digital transformation maturity (DTM) assessment tools reveals that these tools do not embed or guide toward a particular development paradigm that has been adopted by the development NGO. In our follow-up paper, we will address this and present how this can be related to, for example, certain digital principles of the Digital Principles Self-Assessment that may help to improve and 'personalise' the quick scan we develop for development NGOs. The evaluation of the digital transformation maturity tools has resulted in developing a quick scan mainly based on a selection of questions of the Digital Principles Self-Assessment, of course covering all principles but extended with areas such as digital leadership, where additional questions/statements are inspired by the others tools that we evaluated. In our follow-up paper, we will discuss the results of the remainder of the research process as outlined in Figure 1. The quick scan may be a valuable, practical contribution to development NGOs beyond the target group in The Netherlands.

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