DAVe: A Systematic Approach to Manage a Social Impact Project

Research-in-Progress

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Abstract

The gains from digital technology diffusion are deemed essential for development; however, the access to digital technology is not available to all. In collaboration with an Australian university, a not-for- profit organisation and a Pakistan-based community organization, the 'DAVe' (Digital Access Vehicle') project aims to promote digital inclusion and contribute in raising awareness about digital literacy in the remote Southern Punjab region of Pakistan. The project's focus will be on demonstrating the importance of digital literacy to school children, particularly female students, local communities and the development of self-sponsored, multi-purpose technological infrastructure in the targeted areas. This research-in-progress employs Social Impact Navigator as an underlying theoretical framework for planning, evaluating and improving the impacts of social projects such as DAVe and the management of such projects in a methodical manner.

Keywords Digital literacy, Social Impact Project, Social Impact Navigator, DAVe, Pakistan

Introduction

Background

The gains from digital technology diffusion are deemed essential for development; however, the access to digital technology is not available to all (Haenssgen 2018). This is particularly true in the case of young girls living in remote areas of Pakistan. Pakistan has a population of more than 170 million where children under the age of 14 years represent 35% of the total population. According to UNESCO's 2016 Global Education Monitoring (GEM) Report, there were 21.5 million out-of-school children in Pakistan of which 5.6 million were primary school age which means when these children need to be learning in schools, they are outside of the education system at all (UNESCO 2016). According to 2016 statistics, the literacy rate of Pakistan is just above than 58%. The literacy rate among the female population is less than 50% as compared to 70% in the male population. Taking into account rural and urban divide, the literacy rate is higher in urban areas i.e., 74% when compared to rural areas—49% literacy (Khattak 2017). With almost half of the country's population illiterate, one can imagine the losses for not being digitally literate and at a time when 'knowledge is power', it is imperative to focus literacy especially the digital literacy that could play a significant role in the empowerment of any nation (Khattak 2017).

Targeted Area

The District of Pakpattan is selected for the first deployment of the DAVe Project. Pakpattan is located about 205 km from Multan and 184 kilometres by road, Southwest of Lahore, Pakistan. According to 2017 census data, Pakpattan has total population of 1,823,687 including 1,535,591 people living in rural areas (one school for 3,907 children) and 288,096 people in urban areas (one school for 321 children). Interestingly, the female population constitute 61.07% as compared to male population of 38.93% which supports the project's deliberate focus on female students. The literacy rate in rural areas (especially among the female population) is less than 12%. Unfortunately, there is no official data available on the rate of digital literacy among rural females, but anecdotally, it is near to none. Considering the important, yet underprivileged community sector (women of rural areas) of district Pakpattan, the DAVe project has intentionally targeted this community sector as the initial deployment of the project.

Overview of the Project

Digital Access Vehicle (as referred as, DAVe) deployed a digital literacy program through a mobile transport platform to initially facilitate digital literacy and education delivery to female students in remote communities of Pakpattan. The project is carried out in collaboration with an Australian university, an Australian not-for-profit organisation and a Pakistan-based community organization. The pilot of the project is conducted over the period of two weeks in January 2019. During this phase, the partner organization in Pakpattan identified and recruited 4 x primary schools, which cater exclusively to female students, and located in the district of Pakpattan. The DAVe, maintained and supported by the partner organization and was equipped with multiple digital technologies (see components of DAVe and few activities of the project in Figure 1). DAVe travelled from the partner organization's base to the selected schools with the intent of providing unprecedented intimate access and opportunity for the students to acquire hands-on exposure to computers and other digital technologies, particularly the Internet and with the objective of building up levels of digital literacy amongst the student cohort.

DAVe – Digital Access Vehicle	Setting up a digital lab	Students using laptops	Overhead projector screen
Students using iPad to control dash robot	A painting exercise as ice-breaking activity	Students learning the use of laptop	Dash robot

Figure 1. Components and activities of DAVe

The DAVe consists of 10 x laptops, an iPad, Wi-Fi capabilities with a smart router, 1 x overhead projector, a projector screen, 10 x headphones, a printer and a dash robot. DAVe has the capability of accessing the Cloud through a BRCK or equivalent device. In essence, DAVe is a moveable Cloud which facilitates access to the Internet for the students when no Internet connectivity is available in the

village schools. During the trial period of project, DAVe visited the four selected schools introduced digital technologies to the students. Since these students never used computers before, simple painting activities using paint and paper were introduced to break any barriers between students and the project team. Once students settled in, they were offered with the 'tasting of digital technologies' by allowing them to use computers, printer, robot and iPad. It is important to note that students were not assessed for their expertise of using computers but rather encouraged to use such technologies in more relaxed and for fun activities.

Once the trial period is over, DAVe is tasked with making weekly visits to each of the selected schools to allow students to have a consistent and familiar learning environment. The project ensures continuous monitoring and evaluation (by employing Social Impact Navigator - discussed in the section below) and will supplement data collected to track the project and this will provide a richer picture of student and project progress. It is envisaged that data reported from the DAVe project could be used to make a case to local and regional governments and local and global NGOs for additional funding and resource support for female education in the southern Punjab region of Pakistan.

Theoretical Framework

Considering the differences in stakeholders' expectations, nature of return on investment (ROI), outputs, outcomes and impacts, social projects are deemed different from commercial endeavours (Smyth and Vanclay 2017). Phineo (2016) presented a Social Impact Navigator (SIN - as shown in Figure 2) that provides end-to-end course of action for planning, assessing and improving social impact projects. The project will map its activities on SIN for planning, assessing and improving the social impact. Following the guidelines of SIN, this project has three key phases including, (a) Impact Planning, (b) Impact Assessment and (c) Impact Improvement with each phase further decomposed into a number of activities.
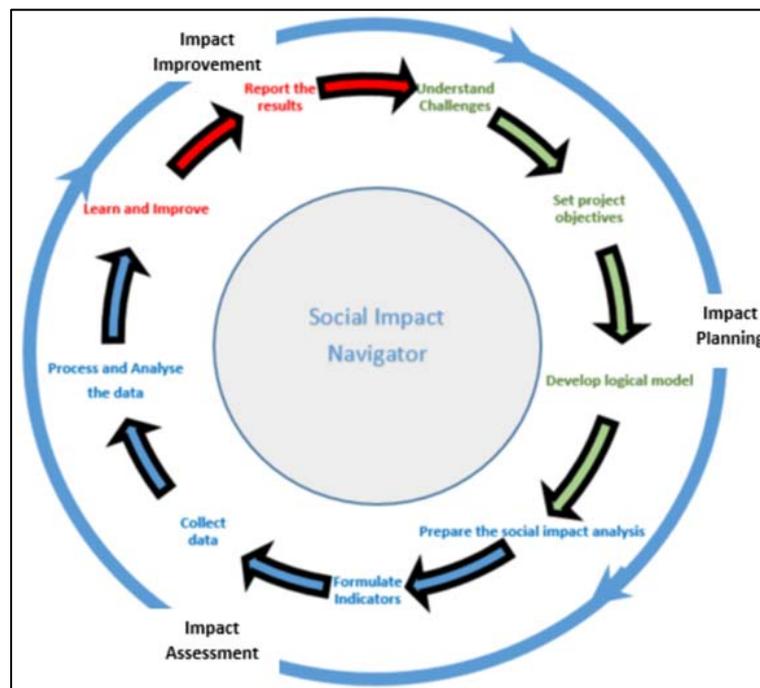

Figure 2. Social Impact Navigator

The following discussion illustrates how SIN will be operationalised for DAVe project.

Impact Planning

Impact planning represents the first phase of Social Impact Navigator (SIN) that ensures that the right foundation is in place for the impact monitoring, assessment, and improving results of a social impact project. The following section reports the key features of impact planning of the DAVe project:

Understand Challenges and Needs

Considering the demographics of target population (female students of rural Pakpattan) and based on the relevant studies such as (Venkatesh et al. 2016; Venkatesh and Sykes 2013), the key challenges of the projects are categorised as follows:

- **Technological challenges:** The targeted population has near to no access to computers and other digital technologies. None of the selected schools have computer labs and hence the students have no opportunity to learn computers as the part of their curriculum. The initial survey of the area conducted by the partner organization suggests that the vast majority of students have never used computers at their schools or homes before. Some of the schools have digital technologies as part of their curriculum but there is no facility where students can practice what they learn in their books. Moreover, only few teachers in these schools are digitally literate. Before any digital literacy program is deployed at the schools, a *'train the trainer'* program is required; that is an additional challenge to deal with. Therefore, a digital lab is set up at the partner organization's premises that would facilitate 'train the trainers' workshops and would be offered free of cost to the staff members of the selected schools
- **Geographical challenges:** A majority of the selected schools are located more than 25 kms from a main town that offer computer training in the form of small scale computer training institutes, internet cafes' or other form of structured/unstructured educational centres. For children, especially for the female and primary school students, it is quite difficult to travel to these larger urban areas to learn about computers and other digital technologies.
- **Social and cultural challenges:** The social and cultural constraints also limit the opportunity for young school girls to travel the long distances (as mentioned above, in some cases more than 25kms) to the nearest town to access computer facilities or the Internet. The social and cultural norms of the area require the young girls to stay closer to the home and they are not encouraged to travel without the supervision of male members of their family, which adds complications regarding the access to digital technologies. DAVe is likely to counter this challenge as it will bring the digital technologies at the door step of the students and would allow them to learn about digital technologies without traveling far.

Set Project Objectives

The project objectives are set to address the three key challenges mentioned in the section above. The project will also directly provide ICT (information and communication technologies) access to the participants. DAVe will take the technology to the users who do not have access to ICT and who are unable to travel to other areas to access technology. Since the female participants are already attending their local schools, the local schools are set as the main avenue to deploy digital literacy programs. To make DAVe a more sustainable and permanent resource for digital literacy, the digital literacy programs in local schools will showcase the value of digital literacy program and engage with local communities to establish self-sponsored, self-managed IT facilities model.

Developing the Logical Model

The logical model plays a significant role in monitoring and assessment of the social impact project. It provides a systematic depiction of the logical relationships between a project's resources, activities and results. This makes it possible to monitor a project's plausibility and feasibility. A logic model also

shows how the project functions or is intended to function, and provides a basis for establishing whether the project is still on the right course. The logical model for DAVe is depicted in Figure 3 below:
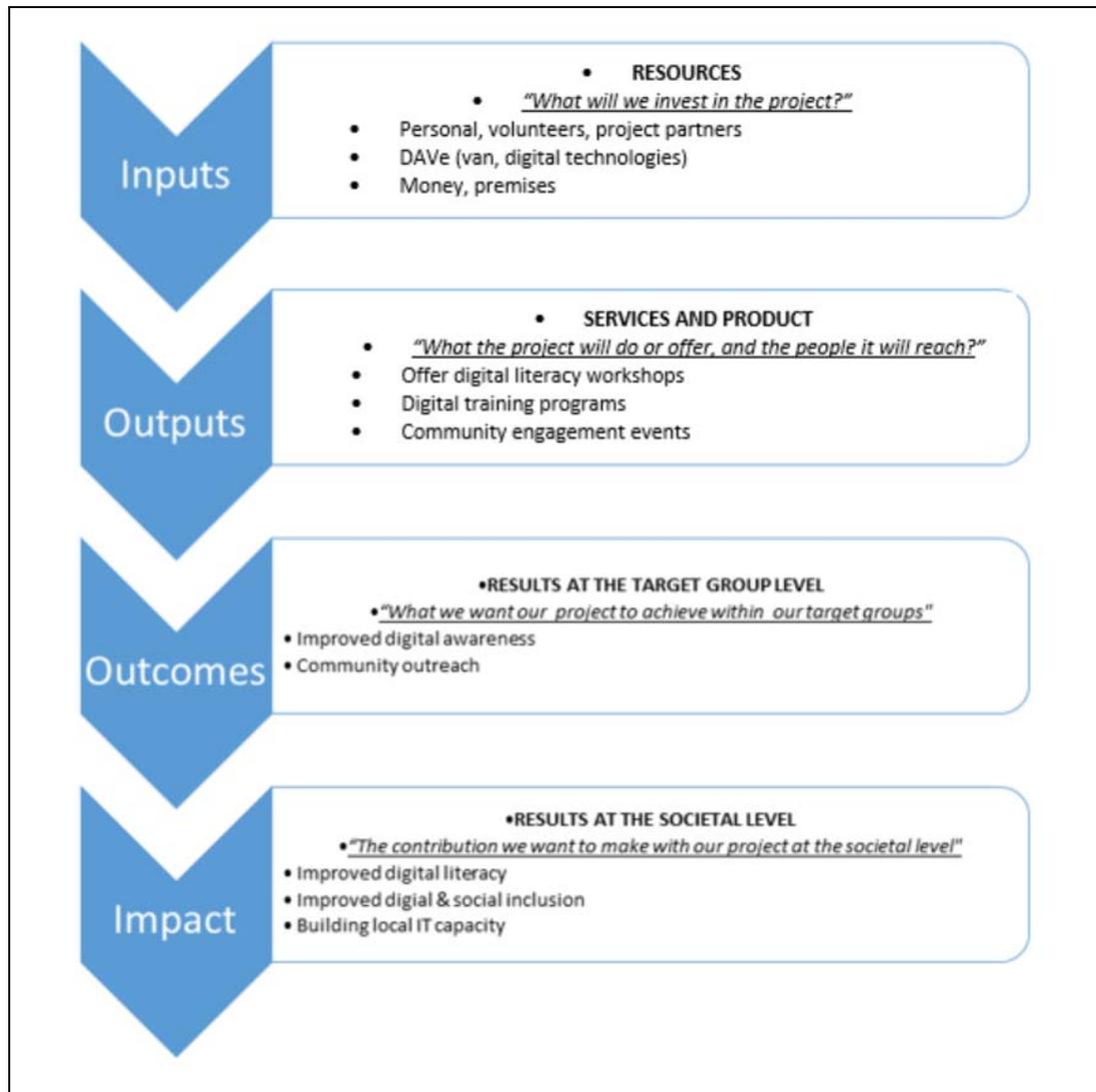

Figure 3. A logical model for DAVe

Impact Assessment

Literature suggests that project planning is inoperable, unless the project progress is carefully monitored and assessed (Sligo et al. 2017). Moreover, the findings of monitoring and assessment need to be translated to actual actions. However, monitoring and assessing social impact projects is a complex process as it may take a long time to realise the actual impact of these project on diverse groups of stakeholders (Esteves et al. 2017). The following section reports on the impact assessment strategy planned for monitoring and assessing the impacts of the project.

Prepare the Social Impact Analysis

Preparing social impact analysis refers to the process guides the monitoring (what is happening) and evaluation (how effectively have things happened, why have they happened and what changes have resulted?) of the project impact. Preparing the social impact analysis has set the foundation for collecting relevant data. To ensure the alignment of the project's progress with the logical model, this project aims to conduct evaluation at the following four stages, including:

1. Evaluation at the beginning: The evaluation at this stage ensures that the challenges and needs identified at the impact planning phase are aligned with the project objectives and the planned project approach. Ideally, the evaluation at this stage enables the project team to take a step back and critically review their project planning before they progress further into the project.

2. Interim evaluation: The interim evaluation is critical as it informs the direction of the project and creates an opportunity to make adjustments; before it is too late. The project will conduct the interim evaluation after 3 months into the project. The data collected on the project progress during first 3 months would be sufficient to draw realistic findings on the project's progress and help to guide the future direction of the project and make adjustments – if required.

3. Final evaluation: The final evaluation will be conducted at the end of a 6 months period at the project's conclusion. The evaluation at this stage will capture data and draws its findings on the entire project (before and after interim evaluation). The comprehensive findings of this evaluation will not only reflect on the success of the project in terms of output and outcome but also guide the future direction of the project such as scaling up to next level or extending to other locations– if applicable.

4. Ex-post evaluation: The uniqueness of social impact projects such as DAVe is that they are expected to create positive, long-term impact on the society rather than creating short-term outputs and outcomes only. To evaluate long-term impact of the DAVe, an ex-post evaluation will be conducted after 6 months of the project's conclusion.

Formulate indicators - Making Results Verifiable

This activity ensures the verification of various levels of the logical model through the development of performance indicators. Indicators are not the objectives but used to indicate if the project is likely to achieve its outputs, outcomes and finally the impact. For DAVe, though the project is aiming to improve digital literacy and overcome social inclusion through building local IT capacity, the indicators such as rate of students attending digital classes, level of engagement and interest of local communities for digital workshops and the involvement, enthusiasm and interest of all stakeholders indicate the early signs of project's possible outcomes.

Collect Data

This project uses a mixed method approach including the collection of qualitative (semi-structured interviews) involving stakeholders such as teachers, community members, trainers and focus groups with the end users. Anecdotal evidence, photo and video documentation, focus groups (community members) are also be used to collect and record relevant data. For instance, the interviews are used to collect data about the satisfaction of participants. These interviews also record participants learning experience of how they put their acquired knowledge into practice. During the trial phase of the project, following data collection methods are used.

Table 1. Data Collection methods

Data collection method	Number of instances	Number of participants	Type of participants	Duration
Semi-structured interviews	8	8 x one-one interviews	School principal or delegate	45 - 60 minutes / interview
Focus Group (FG)	4	6 participants x 4 FGs	School teachers and community members	60 - 90 minutes / FG
Focus group (FG)	1	8 participants x 1 FG	Project team members	60 - 90 minutes / FG

Process and Analyse the Data

The qualitative data will be collected in Urdu (the local language of Pakpattan) and will be translated into English by a professional translator. Qualitative data will be analysed using thematic analysis whereas quantitative data will be analysed using relevant statistical methods.

Improving Results

According to Hogwood and Gunn (1993), no project implementation is ever perfect and there is always room for further improvements. This is particularly true for social impact projects. However, the future improvements in social impacts projects depends heavily on the careful consideration of lessons learnt and building future strategies by enhancing the strengths and minimizing the weaknesses of the previous projects (Westley and Antadze 2010). It is also critical to report the findings to all the stakeholders in timely, transparent and comprehensive manner. The Social Impact Navigator stresses the importance of transparent and impact-oriented reporting. Third phase of Social Impact Navigator constitutes two activities that guide the process of improving and reporting the results of social impact project as described below:

Learn and Improve

Four types of evaluation discussed in the previous sections will provide the foundation for project learning and will be used to guide the project's improvement.

Report the Results

The key expectation from a social impact project is frequent, comprehensive, and transparent reporting to all the relevant stakeholder (PHINEO 2016). To meet the reporting expectation, the project has setup a Facebook page at the commencement of the project. The Facebook page will host all important project highlights, milestones, anecdotes, pictures and videos. In addition, the project will ensure the transparent and impact-oriented reporting by presenting the following fours aspects of the project as shown in Figure 4 below:
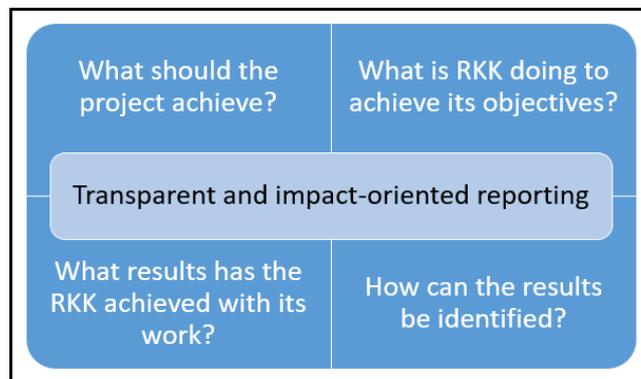

Figure 4: Transparent and Impact Oriented Reporting of the Project

The first aspect will report on what should the project achieves. This includes the details and rationale behind the challenges and needs for the project. The challenges and needs will be mapped down at groups' level for better monitoring and evaluation. The second aspect will report on the project approach used to achieve its objectives such as the digital technologies deployed in the project, the DAVe, personnel budgets and technical expertise made available to the project. The third aspect will summarise and report the findings on what DAVe has achieved with its work in terms of achieving the outputs, outcomes and impact. The fourth aspect will focus on reporting the methodology for social impact analysis. All these aspects will be presented and made available on the project's Facebook page and would also be presented in academic journals relating to the social impact.

Conclusion and Future Directions

This paper systematically conceptualise and operationalize a digital literacy project (referred as DAVe) in rural Pakistan. The Social Impact Navigator is employed to design the project and to ensure a methodical way to address important aspects of planning, assessment and improving results of the social impact project. So far, the project has laid down a robust theoretical foundation that underpin the project's design by carefully addressing all the important activities that will contribute in the successful execution of the project. The project's trial has already been conducted in four schools and created the 'tasting of digital technologies'. During the project trial, qualitative data has also been collected from key informants including school principals, schools teachers, community members and project team members. The data collection phase shed light on the barriers in the digital literacy in rural Pakistan and their potential solutions. However, the formal findings of the project are yet to be produced.

In next stage, the framework developed in this paper will be tested by monitoring and mearing the impact of DAVe. It is anticipated that the systematic approach devised in this paper would contribute in amplifying the impacts of the DAVe project and will be used as a reference point to design similar types of social impact projects in the future.

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