# Detailed Tour of the Implementation Methodology

## *Phase1: Using the SDG Advisor to Get Started*

Phase1 of our Methodology conducts a quick feasibility study by using the SDG Advisor and launches a Pilot Project, if feasible. The overall objective of the SDG Advisor is to accelerate the adoption of UN Sustainable Development Goals (SDGs) through ICT at local, regional and national levels. Specifically, the SDG Advisor initiates our methodology by answering the following questions:

- What is the status of my country/region as calculated by the SDG indicator (good, ok, bad)
- What type of services could improve the needed status
- What are the costs versus benefits of launching a service and how exactly can a service be launched quickly and inexpensively

The SDG Advisor, shown in Fugure1, is a working prototype that attempts to answer these questions by systematically walking the users through a three step process displayed in Figure 2. These three steps are described in more detail below.


Figure 1: Conceptual Overview of the SDG Advisor

STEP1: Select a Country/Region and Initiate the Process

The user selects a country/region and the SDG Advisor fetches all open information about the location from sources such as the World Bank, UN Department of Statistics, World Economic Forum, and others.

STEP2: Select an SDG for Status and Service Recommendations

The user selects an SDG and the SDG Advisor shows how well the country/region is doing based on SDG indicators. Figure2 displays a screenshot of the SDG Advisor that shows the following:

- The user selected SDG3 (Health) for Jamaica as a country.
- The Advisor shows status of Jamaica based on UN-specified SDG Indicators for Healthcare such as number of physicians and hospitals per 1000 people.
- The status is indicated as red, yellow and green to show if the status is below, OK, or above the desired levels. As shown in Figure6, Jamaica needs to improve its status in terms of number of physicians and hospitals per 1000 people while life expectancy at birth for male as well as female is quite good.
- The Advisor also recommends a number of ICT-based services that could improve the status. This recommender feature is based on our knowledgebase of business patterns and heavily utilizes analysis

performed by well-known studies such as the ITU-CISCO, Columbia-Ericcson, and others. We are constantly updating our database.

- The user can select any of the displayed services and perform basic cost-benefit analysis to make an initial judgement if the service is worth pursuing. Ideally, the users should select the services that are low cost but high benefit and impact.
- If the user believes that the service is worth pursuing, then the user presses the Explore button that is processed in Step3.

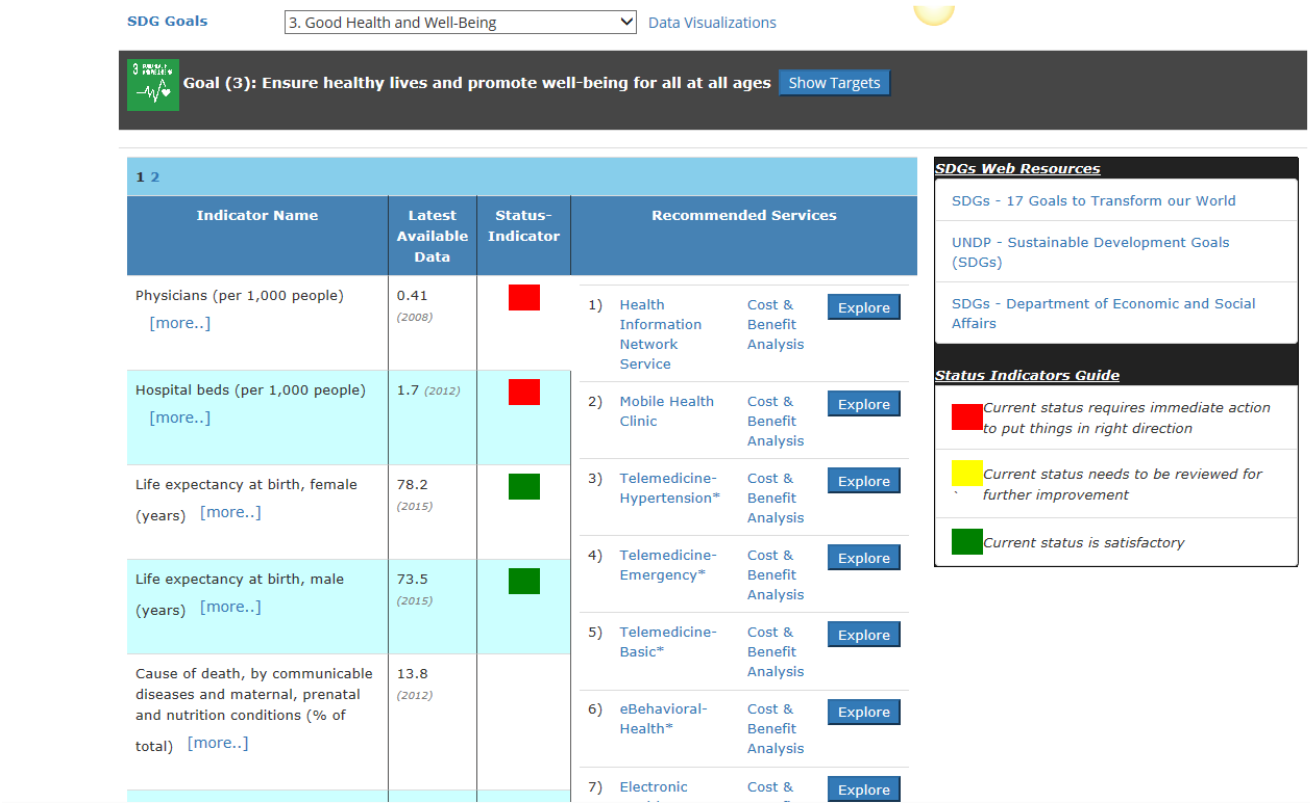



Figure 2: Screenshot of the Results Produced by Step2 of the SDG Advisor

STEP 3: Exploration and Launching/Implementing Needed Services

The SDG Advisor goes beyond recommendations and helps implementation of the needed ICT-based services through the SPACE computer aided planner. The launched services are Samoa Pathway compliant ICT Hubs that directly support SDGs in Health, Education, Public Safety and Public Welfare services through ICT. The SPACE ePlanner conducts a feasibility study and generates extensive reports such as Strategic Planning Report to show the overall vision and architecture with business/technical justification and Standardized RFPs (Requests for Proposals) that can be used to attract vendors for bidding. A very important feature of SPACE is that it automatically generates a sample portal that can be quickly converted to an actual working system. All these outputs and the working portal can be used to initiate a Free Pilot Project with ICT4SIDS Partnership or any other organization to implement the needed services quickly. The following section presents a quick tour of using SPACE to launch a service.

## *Phase2: Using the SPACE Environment to Launch a Service*

A user of the Planner selects a service (e.g., mobile health clinic) for a given country (e.g., Nigeria) as recommended by the SDG Advisor and quickly generates a working portal for the Smart Hub plus the following reports (see Exhibit 2 for more details about these reports):

- Business plans that can be used for obtaining funding
- Detailed Planning Reports (DPRs) that show the architecture, the needed policies, and enabling technologies for the chosen service
- Standardized RFPs (Requests for Proposals) that can be used to attract the needed vendors through an open bidding process
- Project management, disaster recovery and governance guidelines for monitoring and controlling the development activities
- Education, training and public awareness campaigns needed for success

Let us briefly review how these outputs are produced by using Figure 3 which shows a more detailed view of the Planner. *Simply stated, the Planner is a set of intelligent apps ("advisors") that are integrated around common resources.* These advisors collaborate with each other to cover five phases (P0 to P4), shown in Figure 3. These advisors invoke the games, patterns, and other resources to generate the outputs shown in Figure 3. These outputs can be further customized by local experts and/or end users. Suppose that a user wants to develop the strategic plan for an eLearning service in Nigeria. P0 helps the user to capture Nigeria specific information and P1 helps in specification of the eLearning service. P2 generates a customized plan based on P0 and P1. P3 generates the information for RFP and requirements & integration. P4 generates outputs to support project management and governance. The outputs produced can be further customized by the users or local experts manually or by invoking specialized games and simulations. Our goal is to produce the outputs that require less than 30% of local modifications.

*Using Big Data*: The Planner fetches, uses and customizes extensive Big Data resources such as a set of Knowledge Repositories that provide links to a wide range of case studies and educational materials, and External Resources such as the UN Public Administration Network (UNPAN), World Economic Forum (WEF), and World Bank Institute initiative on Open Data. Rules in different phases of the Planner retrieve needed data and use it to produce outputs and/or modify decisions.

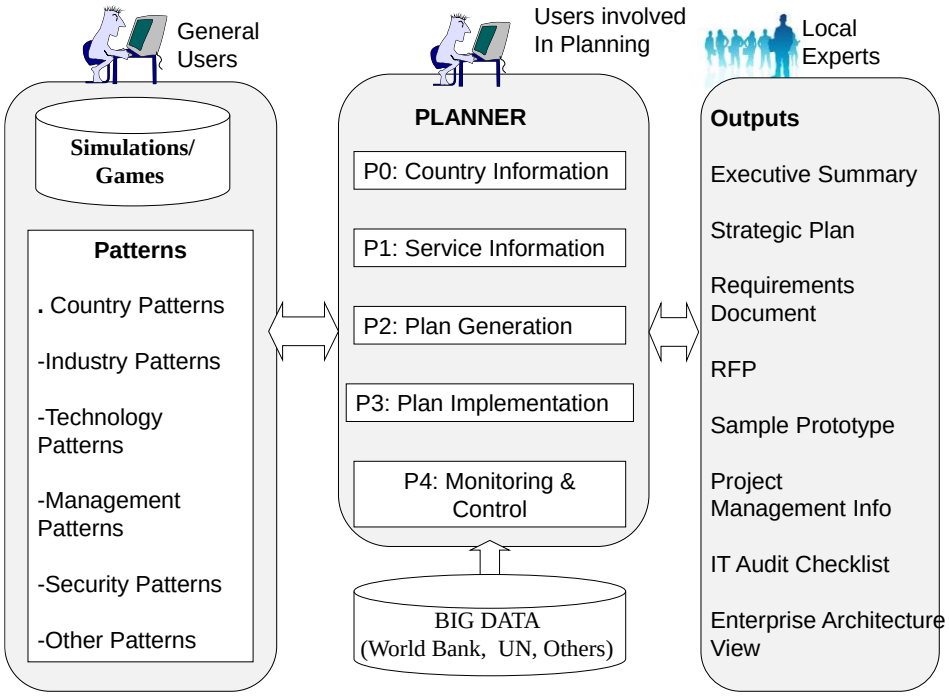



Figure 3: A Conceptual View of SPACE

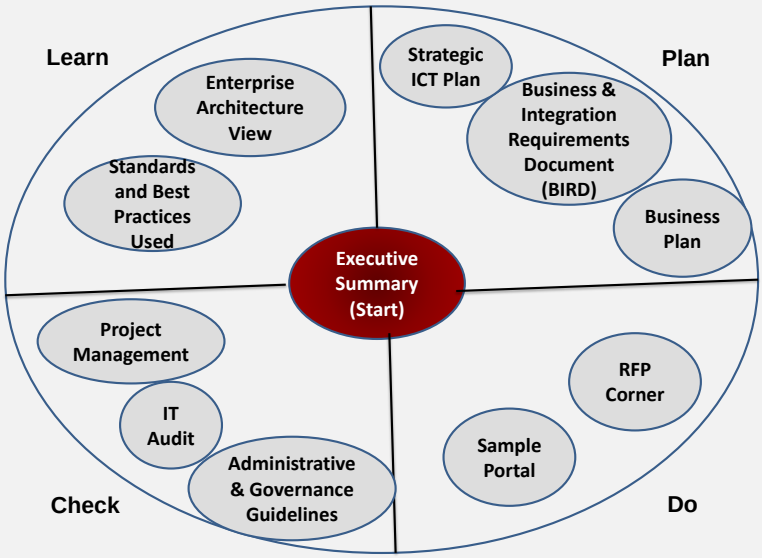
## Exhibit 2: The Outputs Produced by the Planner -- The Checklist

A user of the SPACE Environment selects a service (e.g., mobile health clinic) for a given country (e.g., Nepal) and generates a working portal that supports the Smart Hub in Nepal. In addition, it generates the following outputs to make the Smart Hub a success:

- Strategic Planning Report that shows the overall vision and architecture with business/technical justification
- Requirements documents for system development
- Business plans that can be used to obtaining funding
- Standardized RFPs (Requests for Proposals) that can be used to attract vendors for bidding
- Project management, policies and procedures, disaster recovery and needed governance guidelines
- Education, training and public awareness campaigns needed for success
- Enterprise architecture (EA) views for overall governance
- Suggested standards and best practices

These outputs, displayed graphically below, cover the entire Learn-Plan-Do-Check cycle, are produced *in less than an hour (it takes almost a year to produce similar outputs manually).*

As indicated by Gawande [28] in his best selling book "The Checklist Manifesto: How to Get Things Right", a checklist is a very powerful tool for successful execution of projects. The information contained in these reports can serve as a massive checklist that can help the users to succeed.




### PHASE3 and Phase4: Customizing and Using the Results (Primarily conducted by the Customer POC)

- **Familiarization:** The Customer POC reviews the outputs produced by SPACE. The outputs are stored in the Demo Portal and consist of a Sample Hub Portal, an executive summary, a Funding Proposal, and other vital information about the Pilot Project.

- **Detailed Walkthrough and Training:** The two POCs, and other invited individuals, conduct a detailed walkthrough of the outputs produced by SPACE and determine what can be used quickly.

- **Initial Portal Launch:** The Demo Portal is modified to provide initial services that can be offered to the users ((e.g., training materials, mobile apps, basic advisory services, etc).

- **Extensions and Use:** The Demo Portal is converted into an operational portal through several refinements and extensions based on the user feedback.

- **Project Conclusion (3 to 6 months after Project Start):**
    - Identification of funding and partnership opportunities.
    - Development of a detailed plan for future deployments and expansions.
    - Possible publication of findings as white papers and presentations at SIDS conferences, UN Infopoverty World Conference (IWC), Oklahoma University & Harrisburg University sites, and International/Regional Conferences.
    - Initiation of ICT training and human capacity development programs that are urgently needed.