

# DATA COLLECTION AND ANALYTICS FOR CITIZEN-CENTRIC SMART CITIES

## PART 1: CREATION OF A CUSTOM DATA COLLECTION FORM FOR PUBLIC GOVERNMENT TRANSACTIONS TO GENERATE A “PUBLIC SATISFACTION SCORE/FACTOR (PF)”

### PART 1 OF 3



#### Time Needed:

Implementation takes  
2-3 hours



#### Materials Needed:

An official list of  
all government –  
public services and  
transactions



#### Difficulty Level:

Moderate



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#### Version:

1.0, 30 April 2017

#### TOOL PURPOSE:

This tool will help local government units (LGUs) create a custom, online public feedback page for collecting residents' feedback (opinion, suggestion, etc.) to be used to assess which specific government services and departments need to be worked on and the corresponding urgencies.

The data that will be collected by the output form of this tool will be used as a “public factor” (a numerical value) to calculate the “Service Percentage” for each LGU-department (see *TOOL 3: Calculating Service Percentage of LGU Departments*).

This is especially useful in the LGU's resource allocation, to address working and underlying problems as efficiently as possible.

#### PREREQUISITES:

To successfully make use of this, you need to:

- Have basic mathematics and/or statistics skills.
- Have basic research skills.
- Have an understanding of the local culture and the target locality's dynamics.
- Have basic programming (HTML/PHP data) skills and knowledge of online form deployment (use of google forms can also be explored).

Additionally, this tool works best when the interested local government has a solid desire and commitment to adapt a citizen-centric approach in their smart city transformation project. This will make it easier for the tool user to obtain the aforementioned prerequisite list to create the feedback page. This commitment can be seen in the form of a regulation, a contract, or a legislation issued by appropriate government authority.

This tool assumes that sufficient data has been collected.

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### WHO TO INVOLVE:

- The City Government as the main implementing body and source of official list of services to be assessed (and other documents/data that might be needed).
- The public, who will be using the output from this tool.

### DEFINITION OF TERMS:

LGU (Local Government Unit)	Cities, Municipalities in the Philippines – a sub government entity in the PH, which may have a different term in another country (e.g. county, etc.).
<i>Sanggunian</i>	Legislative body of an LGU, composed of the Vice Mayor and Councilors
<i>Barangay</i>	Smallest administrative division in the Philippines, under an LGU
Service Percentage (SP) (Discussed in Tool 3)	The percent score of each department in an LGU, reflecting public satisfaction (PF) versus internal factors (IF) that determine processing of service (number of steps before completion, etc.)
Public Factor (PF)	The average public rating score of a service under a department; this will be the output of this tool (Tool 1)
Internal Factor (IF)	A numerical score determined by the LGU to assess the number of steps/difficulty level in processing a certain service. (e.g. Business Permit application has higher IF than Community Tax Certificate application) Tool 2: Calculating Government Service IF

### STEPS TO TAKE:

1. After securing commitment from local government (tangible examples: *Sanggunian* Board Resolution, a Contract, etc.), get the official list of all public-

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government services (for example, business permit application, community tax certificate, etc.). If compiled official list is unavailable, visit all departments under the local government unit and list all public-government transactions each department offers.

2. The feedback form output has three parts:
  - Socio-demographic profile of the respondents,
  - Services rating by the respondents,
  - Free message box.

SOCIO DEMOGRAPHIC PROFILE:  Name, Age, Sex, Email Barangay What else do you need to know about your respondent? Add (+)	RATING SCORE:  (use the table in step 3)	FREE MESSAGE BOX:  Write whatever message the respondent wants to say to the gov't.
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3. Next, fill out the table below with the public-government services on your list, with the name of the department in charge.

Recommended: Use drop-down menus instead of listing a long answer sheet in the front-end HTML/PHP form to prevent impatient respondents from prematurely quitting the feedback session. Let them know how much time they will need to complete the form. Make the external look of the form creative, if possible, consult a local-based artist to come up with a culture-specific appearance that will keep respondents engaged.

DEPARTMENT	NAME OF TRANSACTION/ SERVICE	Rate from 1-10 (1: extremely unsatisfactory 10: extremely satisfactory)		
		Promptness (How long did it take you to avail of the service that you need VERSUS your expected time)	Quality of Service (Attitude and Knowledge of Attendant)	Expenses (Fees you paid for versus the fees you are expecting to pay for)
DEPT 1	SERVICE 1			
DEPT 1	SERVICE 2			
DEPT 1	SERVICE 1			

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- If the page will be put online (recommended), use the tables below to create a database table connected to the front-end HTML/PHP page. A basic SQL script may be developed for easy deployment.

RESPONDENTS TABLE

User Id	NAME	AGE	SEX	Etc.

SERVICES TABLE

Service ID	DEPART- MENT	SERVICE NAME	PROMPT- NESS (total)	QUALITY OF SERVICE (total)	EXPENSES (total)

RESPONSES TABLE (Promptness)

Response Id	User Id	Time stamp	SERVICE ID	SERVICE ID	SERVICE ID

RESPONSES TABLE (Quality of Service)

Response Id	User Id	Time stamp	SERVICE ID	SERVICE ID	SERVICE ID

RESPONSES TABLE (Expenses)

Response Id	User Id	Time stamp	SERVICE ID	SERVICE ID	SERVICE ID

This is so we can track the respondents and their individual ratings, so that missing data will have minimal effect on the total SP calculated by each service.

- Put the form online, and start collecting.

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6. To calculate SP of each listed service, use the following equation:

$$PF = \frac{\frac{\text{Total PROMPTNESS Score}}{\text{Total PROMPTNESS Responses}} + \frac{\text{Total QOS Score}}{\text{Total QOS Responses}} + \frac{\text{Total EXPENSES Score}}{\text{Total EXPENSES Responses}}}{3}$$

This will give a “Public Factor” or satisfaction score (between 1-10) of each public-government service/transaction. PF can further be used (with IF) to calculate a department’s SP, to help the LGU pinpoint which services/departments to improve, and in which order of priority.

Note: We used base 10 for easy use of tool. Many LGU workers are more comfortable with a 1-10 scale.

### RESOURCES:

The Official Page of Cloud Legazpi, with live questionnaires that are highly useful for implementing this tool, can be found at [www.cloudlegazpi.com](http://www.cloudlegazpi.com).

### SOUTHEAST ASIA OPEN DATA INNOVATION WEEK

This tool was created by participants of the Southeast Asia Open Data Innovation Week event held last November 2016, as part of the Open Data Innovation Toolbox. There are more tools to check out and use on our website!

Visit <http://labs.webfoundation.org/projects-2/open-data-innovation-week/> to read about the project and see the other tools. For more information on the event, you can also get in touch with us by email at [info@labs.webfoundation.org](mailto:info@labs.webfoundation.org).