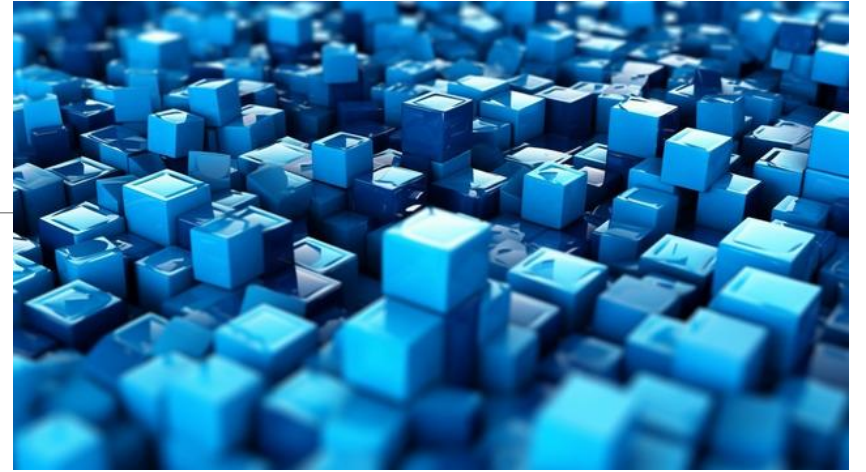# SSI project – WP4

INFORMATIONAL MEETING WP4

SMART BASELINE STAGE

22-03-2024

Building blocks for business process

(will be one of the WP4 sub-results for the smart baseline stage)

Building blocks for business process

Status:

➢ We are working on our first draft version

➢ Beginning of April available for first review (by SSI countries, WP's, Advisory board)

➢ We used input from different countries and WP4 advisory board (thank you again ☺)

Building blocks for business process

The main objective of WP4 is to deliver concrete guidelines that will help NSI's to extend their business process to adopt smart solutions in their surveys.

Part of this is to help NSI's to model their business process and to identify the capabilities needed.

Each NSI has its own situation, its own context and has its own ideas of applying smart solutions, and thus has its own process requirements.

Building blocks for business process

So, what we are developing are **process building blocks**. A building block should be seen as a business process activity.

The idea is that an NSI can use these building blocks to model their own production process.

The focus of the set of building blocks is the statistical production process.

Building blocks for business process

We only look at building blocks that are relevant for using smart solutions.

Building blocks are non-NSI specific and have enough detail to show the 'smart' aspects.

For now the scope is limited to 'Internal sensors' smart solutions (see SSI taxonomy), for now specifically the HBS.

(later on we add blocks concerning TUS and may be Energy data donation)

Example of building block (1)

2.1.4 Build and test app

Based on the design (and related decisions) the app should be build. Some NSI's will build it themselves, others will use an external supplier and others will (re)use an existing app.
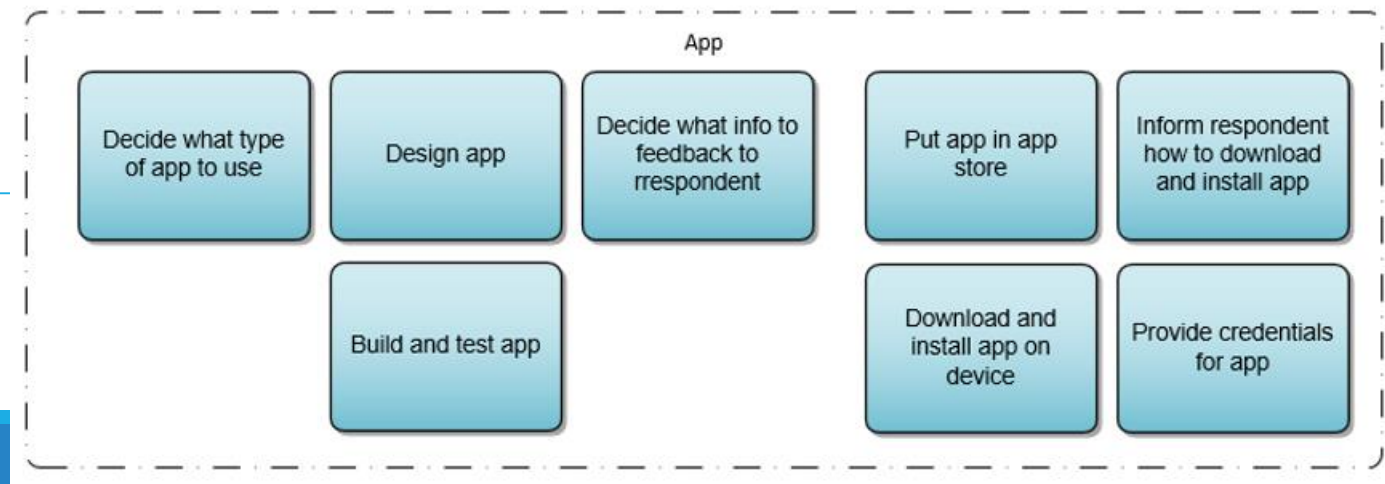
In the first case an NSI should have app-developers and app-testers available. Also you need specific development tools. This can have quite an impact on the organisation. E.g. do you see these actors as 'IT personnel' or as 'data collection instrument personnel'[4].

Regardless of the choice your NSI makes, you need to think about the governance / the application management. How you shape this largely depends on the maturity level you are in (see SSI Maturity model).

Also functionality and usability testing is within this activity.

Actors: app-developer, UI/UX-designer, app-tester, application manager

Other building blocks concerning apps:

App

| Decide what type of app to use | Design app | Decide what info to feedback to rrespondent | Put app in app store | Inform respondent how to download and install app |

| Build and test app | | | Download and install app on device | Provide credentials for app |

Example of building block (2)

2.3.1 Provide photo of a receipt

In this activity, the respondent uses the photo camera on his device. The goal is to obtain a photo good enough to OCR. That includes e.g. taking the photo, detecting of contrast, changing the contour of the receipt, cropping the receipt, removing the background, checking the quality of the photo, etc.

An Image Processing algorithm (a machine learning algorithm) is used to from a photo.

Having the complete receipt is important because it contains more info t product/service rows.

Actor: Respondent

2.4.2 OCR/NLP the receipt

The goal of this activity is to read the text on the receipt and to apply the correct metadata to the different parts of text. The latter means that data must be linked to the correct variables: 'Aldi' is e.g. a shop name and 'Milk' is e.g. a product name.

This activity can be done at two moments in your process:

- On de smart device when the respondent is scanning the receipt.
  For that case the activity is supported by the SSI **microservice 'Receipt scanning'**.
- In the back office where receipts can be scanned during the 'processing phase'.
  The latter can be applied when:
  - You don't want the result of the OCR/NLP at all to be fed back to the respondent, or
  - You don't want the result of the OCR/NLP to be fed back in real time to the respondent, or
  - You provide the option of paper diaries with paper receipts.

Example of building block (3)

2.10.2 Classify to COICOP (manually)

In this case classifying is not done automatically, but manual by a coder. Normally this activity is done next to the automatic classifying. Probably only articles that cannot be classified automatically are classified manually.

As input the result of the OCR/NLP activity is used and/or the actual photos/e-receipts (see 'Make photos / e-receipts available for manual classifying').

Actor: Coder

Grouped into logical groups

Group	Comprises process activities concerning...
App	...designing, building, downloading and installing an app
Collection strategy and communication strategy	...designing strategy and inform respondent about consent and privacy
Providing receipt	...scanning / uploading a receipt and entering additional information
OCR/NLP	...deploying the micro service, OCR/NLP the receipt, involvement of the respondent in this
OCR/NLP model	...the training / updating of the OCR/NLP model
Shop and product lists	...maintaining shop and product lists
Diary	...filling the diary with the individual receipt information, determining the moment of respons
Interviewer	...the role of the interviewer
Data processing	...processing activities
COICOP	...classifying to COICOP
COICOP model	...the training / updating of the COICOP model
Helpdesk	...the role of the helpdesk
Monitoring	...the monitoring of the process and the app usage

Link to PDCA-cycle
(also something WP4 is going to describe)
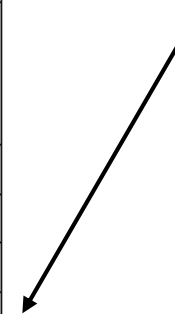
Comprise your own process

With these building blocks you (NSI) can model your own process.

We provide an example in our deliverable