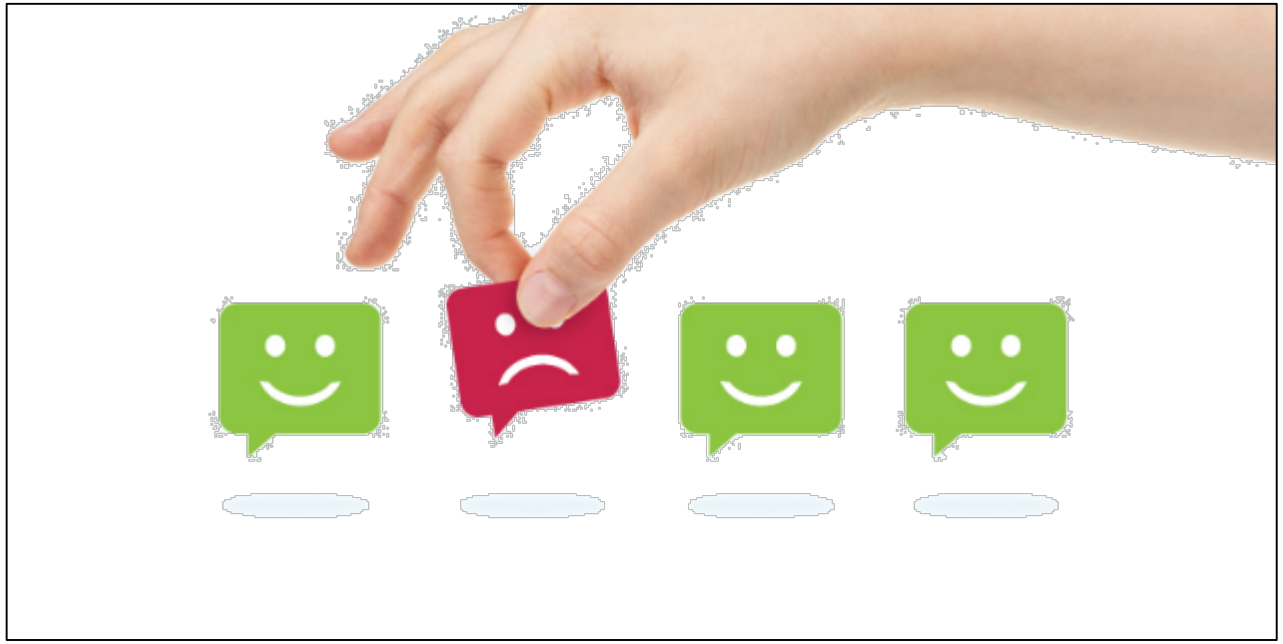
Stats Bots

Chatbots in the context of Official Statistics

On behalf of the working group developing a Statistical Chatbot for Official Statistics

HLG-MOS – Geneva, November 2019

Could StatsBots help bring *reference* facts to the conversation?



Background

Following the joint presentation by **CBS NL** and **Statistics Canada** at the **HLG-MOS in November 2018** as part of the BSTN, a call to action was made.

The **SIS-CC**, a Community of statistical organisations who collaborate to build open source tools and who share common needs, helped to push this agenda forward with the coming together of 9 organisations at the OECD in Paris in March 2019.

Working group was formed

Name	Organisation
Mike Ackermans	Statistics Netherlands
Piet van Dosselaar	Statistics Netherlands
D.E.A. (David) Kloet	Statistics Netherlands
Stéphane Dufour	Statistics Canada
Andrew Sinkinson	Statistics Canada
Maarja Jämsa	Statistics Estonia
Daniel O'Donnell	Federal Statistical Office of Germany
Lorenzo Bruni	Central Statistical Office of Ireland
Eric Anvar	OECD
Eileen Capponi	OECD
Jonathan Challener	OECD
Lisa Thiel	Statistics Sweden
Hakim Sjöström	Statistics Sweden
Soph Warnes	ONS
Rob Fry	ONS
Jure Stabuc	ONS
Vic Chenery	ONS
David Rawnsley	UKData Service

To define the scope, mission and vision for the project, prepare the business case(s), identify and showcase technologies needed for this project, list the skills and competences needed, with a goal to develop a 'sharable' (or common) solution through different business models, and look at ways in which to develop non-NSO partnerships in the wider data 'ecosystem'.

VALUE CREATION

Operational Efficiency | **Engage with more people** | **Enrich the engagement**

MAIN BUSINESS CASES

Support users ⟷ Get Message Thru

Collection ⟷ | **Dissemination** ⟷

Recruitment assistant	Census assistant	Augmented service desk	Research assistant	Story engagement
Staff assistant		Guided search		Topical conversation

High automation ⟷ Low automation

Chatbot enables constant feedback loop and knowledge retention

JOINTLY DEVELOPED CAPABILITIES

Knowledge ⟷ Code

A toolkit for NSOs to develop their business case, incl. Personas, service charactistics, ROI, open strategy…

A database of statistical intents and answers

Training set

Enable our data and metadata for Chatbots

APIs for Chatbots

Lever effect

Portable open Algorithms

Exploring together the market

An RFI was sent to potential technology partners as a result of the discussions in Paris with 5 shortlisted for a webinar. Each webinar consisted of:

1. a brief overview of their company and project(s) relevant to the RFI,
2. a response to one or more of the business cases and how they would go about addressing these,
3. an opportunity for the WG members to ask questions.

The webinars were recorded and made available for playback to the Working Group members.

More webinars should be planned in the future, as part of ongoing joint effort to map market players with a relevant value proposition for statistical organisations.

More of the same, or something new?

The technology providers could be **categorised** either as **inside the box thinkers** (industry standard offering), or **out of the box thinking** (with the exception of Artik, a consultancy with a very good view of the ecosystem as whole).

GOLEM.AI

*Innovative approach '**Symbolic AI based on Linguistics**' able to reproduce and automate existing processes.*

***No need to duplicate data**, or create vast numbers of potential questions (intents) that data consumers may ask.*

*Speaks our language with ability to **add any number of languages** with minimal effort.*

…

These are temporary conclusions, more to come with the consultation of other and larger players….

Next steps (tbc with the group in Dec)

1) The Working Group proposes to move forward with a **StatsBots Proof of Concept in 2020**. The PoC would be centered on the data exploration uses cases (research assistant / guided search) which has not yet been tackled with by NSOs. The PoC would be co-funded by interested organisations.

2) A tentative statement of work has been put forth by OECD – for a collaboration with Ecole Polytechnique / INRIA research group on fact checking. Research topic would be:

How can SDMX data semantics enable (or not) the implementation of StatsBots by statistical organisations?

If interested contact jonathan.challener@oecd.org, SIS-CC community manager.