



Recommendation 10:



Using 'Natural Language Processing' to meet the public sector need 'Digitization'

Actual solutions and services:

There are several NLP solutions on the market, such as Clarabridge NLP, RASA NLU, Ignitho NLP, NLP Technologies, Data Genic NLP, Vocali.

SWOT Analysis	
Strengths <ul style="list-style-type: none"> Enhanced customer experience. Improved documentation efficiency and accuracy. Identification of the most pertinent information from large databases. Contextual understanding. 	Weaknesses <ul style="list-style-type: none"> Domain specific ontologies required. Language specific dictionaries required. Difficulty to identify irony.
Opportunities <ul style="list-style-type: none"> Perspectives and perceptions identification. Extraction of value from large volumes of data currently underexploited. Fighting Digital Divide 	Threats <ul style="list-style-type: none"> Government rules and regulations hindering natural language processing solutions to be widely adapted. Need for smart devices, web & cloud-based applications. Privacy Considerations

Digitization:

A need reflecting the "digital by default" paradigm. Although considerable advances have been made on this front, much of the e-government initiatives are still informative rather than interactive. This need reflects the urge towards more interactive e-government initiatives and enabling communication through electronic and internet channels (wherever non-existent). Specific illustrations include: "Manual processes (especially those regarding citizens' data processing should be fully automated.", "Still not possible to do the paperwork regarding a relocation to another city online."

Natural Language Processing:

Natural Language Processing (NLP) is a field of computer science, artificial intelligence, and computational linguistics concerned with the interactions between computers and human (natural) languages. As such, NLP is related to the area of human-computer interaction. NLP technology involves the ability to turn text or audio speech into encoded, structured information, based on an appropriate ontology**. NLP solutions enable communication between human and machine by analysing the content written and spoken in natural human language and converting it into the machine understandable language***.*

* Wikipedia-Natural Language Processing, https://en.wikipedia.org/wiki/Natural_language_processing

** Gartner IT Glossary – Natural Language Processing, <http://www.gartner.com/it-glossary/natural-language-processing-nlp/>

*** Future Market Insights, Natural Language Processing NLP Market: Global Industry Analysis and Opportunity Assessment 2015-2025, <http://www.futuremarketinsights.com/reports/natural-language-processing-nlp-market>