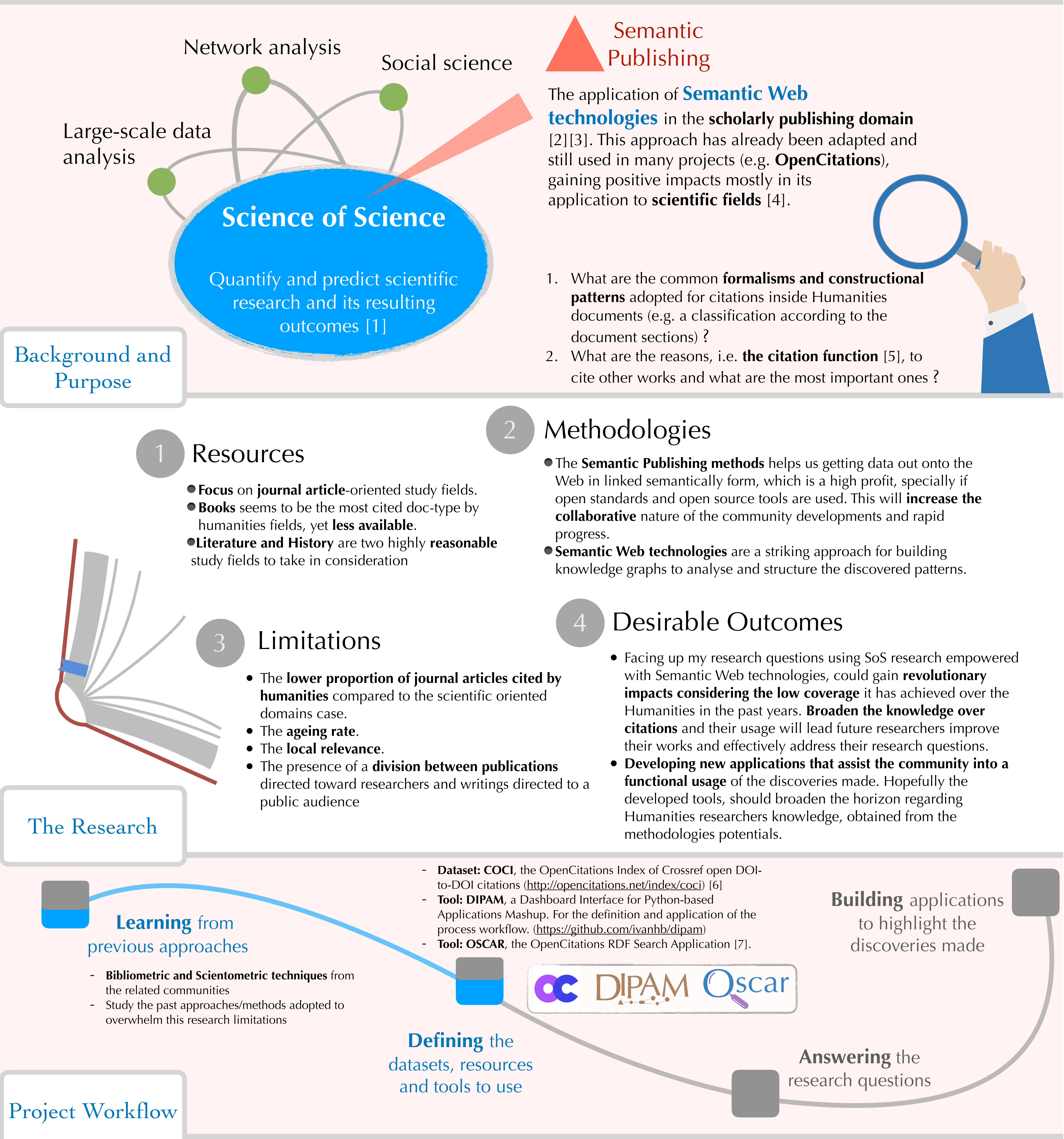# The application of Semantic Publishing technologies in the Science of Science research domain for the Humanities field

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Background and Purpose

Network analysis

Social science

Large-scale data analysis

Science of Science
Quantify and predict scientific research and its resulting outcomes [1]

Semantic Publishing

The application of **Semantic Web technologies** in the **scholarly publishing domain** [2][3]. This approach has already been adapted and still used in many projects (e.g. **OpenCitations**), gaining positive impacts mostly in its application to **scientific fields** [4].

1. What are the common **formalisms and constructional patterns** adopted for citations inside Humanities documents (e.g. a classification according to the document sections) ?
2. What are the reasons, i.e. **the citation function** [5], to cite other works and what are the most important ones ?

The Research

1 Resources

- **Focus** on **journal article**-oriented study fields.
- **Books** seems to be the most cited doc-type by humanities fields, yet **less available**.
- **Literature and History** are two highly **reasonable** study fields to take in consideration

2 Methodologies

- The **Semantic Publishing methods** helps us getting data out onto the Web in linked semantically form, which is a high profit, specially if open standards and open source tools are used. This will **increase the collaborative** nature of the community developments and rapid progress.
- **Semantic Web technologies** are a striking approach for building knowledge graphs to analyse and structure the discovered patterns.

3 Limitations

- The **lower proportion of journal articles cited by humanities** compared to the scientific oriented domains case.
- The **ageing rate**.
- The **local relevance**.
- The presence of a **division between publications** directed toward researchers and writings directed to a public audience

4 Desirable Outcomes

- Facing up my research questions using SoS research empowered with Semantic Web technologies, could gain **revolutionary impacts considering the low coverage** it has achieved over the Humanities in the past years. **Broaden the knowledge over citations** and their usage will lead future researchers improve their works and effectively address their research questions.
- **Developing new applications that assist the community into a functional usage** of the discoveries made. Hopefully the developed tools, should broaden the horizon regarding Humanities researchers knowledge, obtained from the methodologies potentials.

Project Workflow

Learning from previous approaches

- **Bibliometric and Scientometric techniques** from the related communities
- Study the past approaches/methods adopted to overwhelm this research limitations

Defining the datasets, resources and tools to use

- Dataset: **COCI**, the OpenCitations Index of Crossref open DOI-to-DOI citations (http://opencitations.net/index/coci) [6]
- Tool: **DIPAM**, a Dashboard Interface for Python-based Applications Mashup. For the definition and application of the process workflow. (https://github.com/ivanhb/dipam)
- Tool: **OSCAR**, the OpenCitations RDF Search Application [7].

Building applications to highlight the discoveries made

Answering the research questions

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