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## How to ensure the economic viability of an open data platform

Amaury Duval<sup>a</sup>, Valérie Brasse<sup>b\*</sup>

<sup>a</sup>*Ecole Centrale Paris, Châtenay-Malabry, France*

<sup>b</sup>*IS4RI, Strasbourg, France*

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### Abstract

In the context of the EC-funded ENGAGE project, and in collaboration with euroCRIS, a team at the engineering school Ecole Centrale Paris has performed a functional, technical and economic analysis of Open Governmental Data platforms in the world to determine the differentiating services to be promoted and the most promising business models for this type of platforms. As a result, a combination of business models evolving in time is recommended.

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### 1. Introduction

The global context is a public demand for transparency in the use of public funds. Added to this is the bet made by the governing bodies of the economic potential of re-use of public data, and of development of applications using the public data.

Currently, more and more portals are created to make available public data, but barriers hinder the desired operation: data format, metadata format and poverty, diversity of vocabularies and languages, diversity of licenses of use, to name the most important.

The ENGAGE project<sup>1</sup>, funded by the European Commission is currently developing a platform<sup>2</sup> where the collaborative aspect should help overcome some of these barriers.

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\* Corresponding author: Valérie Brasse, Tel.: +33 695-025-600  
*E-mail address:* [vbrasse@is4ri.com](mailto:vbrasse@is4ri.com)

## 2. Context

### 2.1. General context

A major challenge for Open Data is the reusability of the information. Hence the licenses meant to explain the terms of a contract between both the supplier and the user of data must be as little restrictive as possible.

Given this duty of accessibility and reusability by all, the implementation of such data allows streamlining information, avoiding duplication and improving services through user feedback, data quality. Besides, it enhances transparency of public action.

Eventually Open Data is an area that deeply concerns governments. They must collect and disseminate information (raw data). Downstream, Open Data platforms organize, structure and display efficiently this data.

### 2.2. What is ENGAGE?

The purpose of the ENGAGE project is to build a collaborative workspace at a European level, a platform that lists a large amount of datasets available to all (more than 50,000 currently), even though the beta version is still for experienced users (who know exactly what they seek).

ENGAGE must provide easily re-usable datasets, from different sources (avoiding duplicates) and appealing display, search and visualization tools.

ENGAGE already has powerful tools such as a datasets management system, quick & advanced search tools, automatic translation, a multilingual user interface, visualization tools, a social network between users (feedbacks, grades, comments, private messages, questions, etc.), links to social networks such as Twitter, Facebook and Google+, an API (access, modification, creation of datasets), metadata on basic & advanced data sets, cleansing and data enrichment, etc.

## 3. Business model analysis

### 3.1. Definition of a business model for ENGAGE

Our goal regarding the ENGAGE project is to determine how to ensure the economic viability of the platform. To this end, we performed a benchmark on business models from different websites and platform that already exist on the internet.

This benchmark pointed out that there are three main business models used on the internet:

- A business model which is *free* for the user and whose income comes from advertisement
- A business model called *freemium* in which users can subscribe to get more functionalities
- A business model called *premium* in which all the users have to pay to get the service

However, we realized that choosing a single business model for a platform is probably too restrictive and might become a burden to ENGAGE's development.

We then thought of a transition on a 2+1 mode, which will take the best of each business model described previously.

The *free* model is used as a call step to initially get a critical mass of users, which will allow a transition to the *freemium* model for non-profit users and *premium* for companies.

### 3.2. Application in a business model canvas

The components of the 3 business models have been modelled in the Business Model Canvas model in Figure 1.

This approach leads to three categories of users:

- Unregistered users who are anonymous to the platform
- Registered users
- Registered user who pay a subscription

Each of these categories of users will be granted rights according to their status and the step the business model for the project is in. These aspects will be developed in the following part.

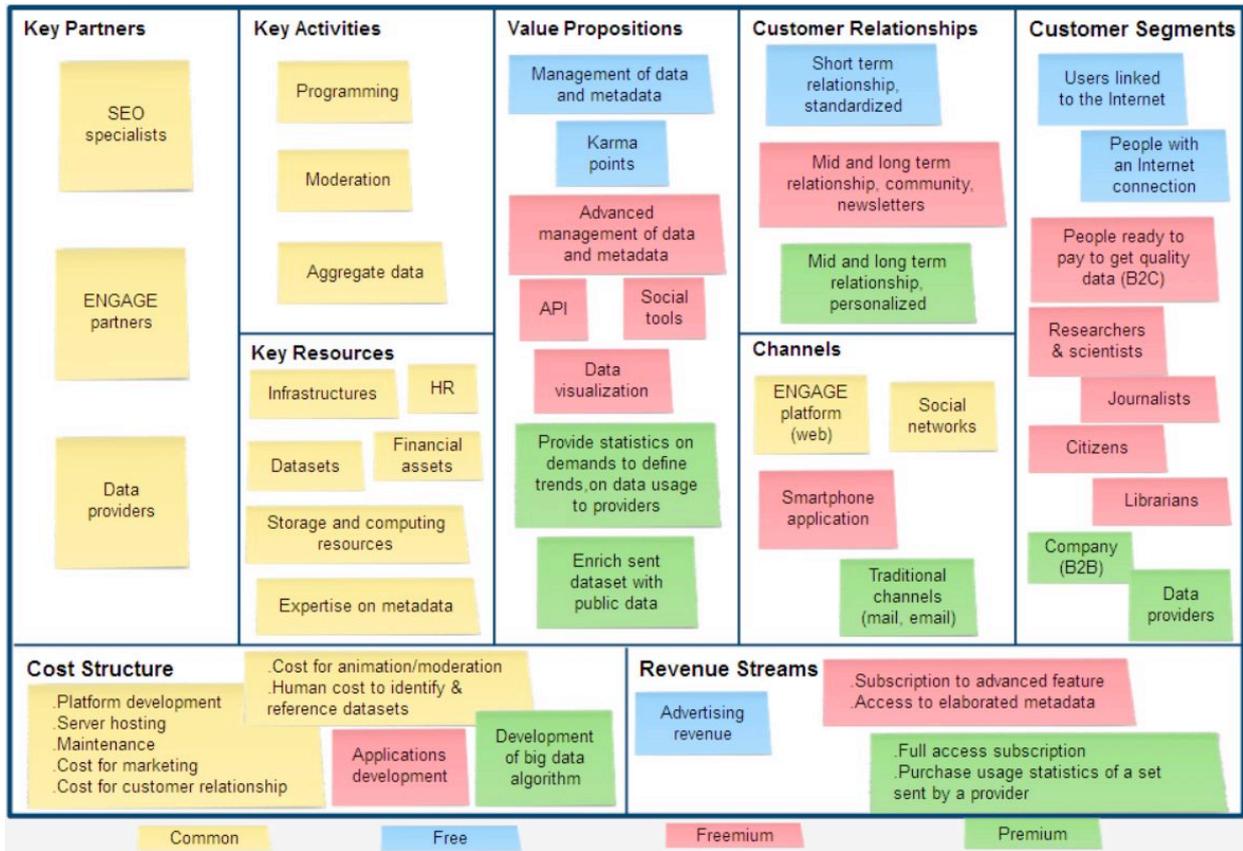


Fig. 1. Proposed Business model canvas for the ENGAGE platform

#### 4. Functional analysis

Now that we have defined the three phases of our business model, the next step is to establish the features offered by the platform. Indeed, a business model can only ensure a theoretical, economic viability while features are the keystone of a platform, of its attractiveness, hence, of its success. Therefore we performed a benchmark on already existing Open Data platforms in order to have both a picture of what already works and a draft of potential, competitive advantages.

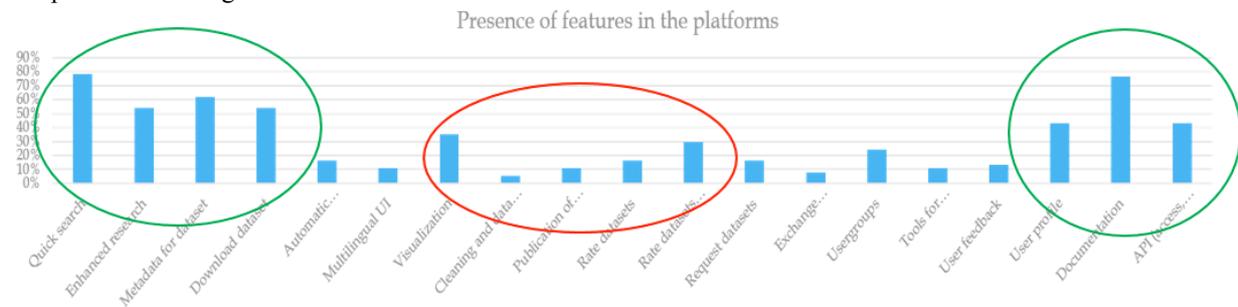


Fig. 2. Functional benchmarking results

There are two main conclusions to our benchmark analysis, the first one being that there is a large group of essential features such as advanced research, metadata and downloading datasets. The second one is that at the opposite, features such as multilingual interface, automated translation of datasets or rich metadata are not largely developed yet, and are thus opportunities for the ENGAGE platform.

Given the list of features we built, what's left is to allocate in an intelligent way these features to each status of our business model: it is necessary for the platform to push users into signing in, and then subscribing. The only way this dynamic can happen is to set up incentives: upgrading a user's status shall unlock access to new features and new tools.

Table 1. Suggested phasing of the 3 business models.

	Phase 1: Free	Phase 2: Freemium	Phase 3: Premium
Free	Simple research only Limited access to metadata	Same as Phase 1 + Limited access to data and metadata	N/A
Signed in	Advanced search allowed Access to API Visualization tools Social features Multilingual interface	Limitation on metadata Loss of API access	N/A
Subscriber	N/A	API Automatic translation Full metadata (CERIF)	All is possible

As seen in this table, some features will restrict the rights of users (such as limitation on data), while others will push users into upgrading their status. Besides, by adding many social features, the “signed in” status in phase 1 offers an entrance ticket to the ENGAGE community which is to become the spine of the platform. To summarize, our goal is to create a “top-left to bottom-right” dynamic.

Moreover, the platform's policy toward companies will be slightly different. On one hand the only way companies searching for data sets will access to the platform will be by subscribing, that is there will be no “signed in” status for them. On the other hand, companies willing to share data on the platform will be allowed to do so and will be proposed to buy information on the use of their very own data : how frequently it was shared, downloaded, noted, who reads it, how users reused it in other works.

## 5. Conclusion

A phasing approach from free to freemium and premium business models is recommended, where the distinctive features are the access to APIs, automatic translation and rich metadata.

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