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Enabling the European Business Graph for Innovative Data Products and Services

euBusinessGraph

Deliverable D5.2:

Exploitation and Dissemination Strategy

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1.1	16.02.2018	Update of Exploitation Strategy, Update of Dissemination output (Media visuals, KPI Year 1)

Executive summary

This deliverable “D5.2: Exploitation and Dissemination Strategy” presents a strategy of how euBusinessGraph is aiming to reach out to a relevant audience in business, academia and general public and to create the desired impact among its interest community.

This document has two purposes:

- **Dissemination Plan for euBusinessGraph Data Marketplace:** Provides an initial project dissemination plan by highlighting target groups and defining internal communication procedures and means. This includes online and offline media.

- **Exploitation Strategy for euBusinessGraph Data Marketplace:** Investigates the potential of euBusinessGraph Data Marketplace through the usage of Lean Business Model tools with Product Vision Board, Lean Business Model Canvas, Value Proposition Canvas and Testing/Learning Cards. The data collected from the various tools will be used for the development of the data marketplace and communicated back to the technical work packages.

euBusinessGraph is an “innovation action” project with a runtime of two and a half years. Therefore a special focus is set to reach a business audience within the industries and market segments covered by the six business cases: Marketing & Sales (Atoka+), Enterprise/CRM, Business Information (Tender Discovery Service - TDS), Media (Journalism Product) and Open Data (CED, BR-S).

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1 Introduction

The dissemination strategy and the selection of communication means are outlined in this deliverable.

The major task of the dissemination strategy is to generate awareness and interest, to present the development and the outcome of the project and to engage with interested audiences in order to convince people to use the euBusinessGraph and its marketplace. Based on this approach, general guidelines for professional communication in terms of chosen channels, messages, frequency of messages and reach of target groups are introduced.

It should be noted, that the dissemination plan will be updated and refined throughout the course of the project. The exploitation strategy will be defined once the business cases are more developed. This deliverable will then be updated. Furthermore there will be a final version in which we will report about activities carried out, namely in D5.3 (delivery date M30).

Chapter 2 gives an introduction to the dissemination strategy which is based on two major phases. Section 2.2 outlines the six business cases and euBusinessGraph Data Marketplace while section 2.3 introduces the target groups and the key channels for reaching out to them. In section 2.4 and 2.5, a comprehensive list of activities shows how the project is aiming to develop a coherent project identity. The main communication channels are introduced as well as a list of the main media outlets which are going to be produced. Section 2.6 presents how papers and publications, as well as dissemination events are used to spread the word and get in contact with our audience. Section 2.10 provides an overview of how the communication efforts are going to be monitored.

Chapter 3 provides an introduction to the exploitation strategy based on the Lean Business Model Framework. In section 3.1, Product Envisioning gives an introduction to the vision the consortium has set out for euBusinessGraph Data Marketplace with the help of Product Vision Canvas. In section 3.2 and 3.3, Lean Business Model Canvas and Value Proposition Canvases for the three user segments are used to help the partners in the consortium to find the product-market fit of euBusinessGraph Data Marketplace and to understand the business model of the data marketplace. Hypotheses are extracted from the canvases in section 3.4 and tested on Survey Monkey, and section 3.5 introduces the final tool used in lean business model, the testing card & learning card. This chapter ends with the potential business model for euBusinessGraph Marketplace in section 3.6.

2 Dissemination Strategy

The euBusinessGraph dissemination strategy will be the basis to develop a set of market-oriented actions during the project and beyond its completion. The euBusinessGraph approach of focusing on consumers of company-related data, is also reflected in the dissemination strategy tailored to its stakeholders. In general the strategy is build upon the definitions of a successful communication strategy as set out in the H2020 communication guide[1].

Major objectives are to:

- Raise attention and inform about the development of the overall project and single business cases
- Make project outcomes and explicitly applications available to targeted audiences
- Demonstrate that euBusinessGraph adds value to the European society and its markets

In order to meet the objectives, a structured process was developed to ensure that internal and external communication is successfully implemented. This includes arrangements, such as the request for all partners to report to the dissemination leader when conferences are visited, workshops/hackathons/meetups organized or other kind of promoting event are attended. With this information the responsibles are able to plan the communication around the events and to provide the partner involved with additionally promotional material if appropriate. Beyond that it needs to be considered that the communication focus changes over project duration in line with the overall development of the project as is introduced in the following.

2.1 Dissemination Phases for the Project

There are two major communication and dissemination phases for the project. The goal of phase 1 is primarily to gear up, create awareness about the project and its business cases and to connect to relevant communities. Phase 2 builds upon the achievements of phase 1 and its aim is engaging users to the prototypes and demonstrating the added value the single applications contribute to different kinds of businesses.

2.1.1 Phase 1: Inform and Connect

The first communication phase of the project has two main goals: Firstly, to spread the word and to inform target audiences about euBusinessGraph and its major objectives. And secondly to start interacting with relevant communities, which might differ in the scope of different business cases.

The “Inform and Connect” phase will be active during the whole lifetime of the project. In order to reach the relevant influencers we are producing dissemination material and promoting the project through our website and social media channels.

2.1.2 Phase 2: Demonstrate, Collaborate and Convince

The second phase - starting in year 2 - is about demonstrating progress, showing prototypes and innovative features to targeted audiences and identifying key influencer.

We are aiming for engaging with target groups and individual users as early as possible and we will ask them for feedback (via Twitter, via the contact form on the website and via direct talks during events) to be reflected in the business cases and the development of the actual Business Graph. This strategy is well inline with the agile methodologies for business case development outlined in WP4. In order to do so, we will set up various activities covering dissemination and exploitation. Complementary, the website - as one of the major communication channels - will provide appealing content which will be continously being updated. Of course, the success of these efforts strongly depends on the quality of the prototypes with regard to the business cases and the Business Graph

[1] European Commission, EU Framework Programme for Research and Innovation: Communicating EU research and innovation guidance for project participants; Version 1.0; 25.09.2014; http://ec.europa.eu/research/participants/data/ref/h2020/other/gm/h2020-guide-comm_en.pdf

2.2 Communicating Six Business Cases and the Business Graph (Marketplace)

The euBusinessGraph's strength are the six business cases. The project's aim is to develop applications that are very close to the actual market. Thus, the business cases are one of the core aspects that will be communicated to the stakeholders and is addressed online and offline as follows:

a) The primary communication channel is the websites, thus, a content plan was developed that reflects the euBusinessGraphs's communication strategy. All partners are asked to provide content in the form of articles or multimedia stories. The aim is to publish one article every month that is devoted to the business case in questions or the development of the actual Business Graph and its marketplace. Furthermore, the project's Twitter channel is employed as multiplicator to spread business cases-specific news.

b) The importance of promoting the business cases and the Business Graph (marketplace) was and is incorporated in the creation of offline dissemination material. We chose a flexible design approach in terms that individual business case logos (if existing) or consortium partner logos can be highlighted.

2.3 Target Groups

2.3.1 Defining the audience

In order to appropriately tailor the messages and provide a good match with market expectations and user group interests, it is key to identify the relevant target groups. In a first step, we have identified and clustered the following groups, which is displayed in Table 1. The clustering will enable us to address these groups more effectively.

Table 1 Overview of target groups and subgroups

Clustered target groups	All groups identified

Private & Public Companies	• Industry stakeholders in **relevant** markets
	• SMEs:
	  o Marketing and Sales
	  o Enterprise/CRM
	  o Business Information
	  o Media companies
	  o Content providers (e.g. broadcasters) and data practitioners
	• Public sector
	• Investigation and compliance
	• Procurement
	• Marketing and sales departments

Data Experts & Initiatives	• Open data activists • Players in the innovation ecosystem in Europe (including regional and national organisations and initiatives supporting innovative actions) • Policy-makers and regulators • Legal and ethical experts • Other European projects and initiatives
Scientific Community	• Scientists and computer science scholars, especially in the field of: linked data; data

	marketplace; DaaS, data storage, cleaning and transformation; entity extraction; data analytics based on three paradigms (machine learning, pattern detection in graphs, and statistical modelling)
General Public	• End-users, professional and citizens associations, general public

2.3.2 Key channels for target groups

In order to effectively address these different target groups, it is important to notice that - beyond providing information on the website and social networks - each group has its preferred channels. The following table provides a rough overview about the different communities and a list of channels and locations to best reach out to them.

Table 2 – Approaching target groups

Target groups	Channels & locations
Private & Public Companies	• Industry events
Data Experts & Initiatives	• Government bodies • Data analytics, Big Data industry events
Scientific Community	• Conferences • Journals • Summer schools and Hackathons
General Public	• Marketing Material (online & offline)

2.4 Communication means

This section gives an outlook on how different media is used to spread the message. Firstly, we will introduce key elements of the project identity such as logo and claim. Secondly, we will describe the major communication channels including a plan of how they are going to be used. Metrics for quantifying the success are introduced in chapter 6.

2.4.1 Project identity

The project identity defines the “look and feel” of the project and its activities. It consists of a coherent concept which defines the logo, mission statement and all media outlets such as the website, social media activities, and marketing material. The stronger and more coherent a project identity is, the more awareness can be raised.

Key attributes of the euBusinessGraph project are:

- euBusinessGraph is an EU project running for two and a half years; it is an innovation action
- euBusinessGraph develops a business knowledge graph and a digital marketplace
- The marketplace including the knowledge graph developed around six pilot business cases

2.4.1.1 Logo

The euBusinessGraph logo reflects the interconnected graph (the connected dots) of European company-related information from public and private sector. The cloud shape in the logo illustrates the cloud based marketplace where the business graph is provisioned to enable the creation of data-driven products and services. The consortium has decided on the logo below, jointly developed by SINTEF and ONTOTEXT.

Figure 1 – Logo from SINTEF

2.4.1.2 Mission statement

For a successful communication it is crucial to have a mission statement which provides a clear and concise definition of the unique selling point. The euBusinessGraph mission statement consists of two combined slogans.

The slogan is:

“Enabling the European Business Graph for Innovative Data Products and Services”

The second slogan, which aims to grasp attention and serves as an “eye opener”, is:

“Discover Business Data”

The slogan is meant to attract people's attention and make them curious to learn more about the euBusinessGraph project and its products. It is used in combination with a corresponding image.

2.4.1.3 Fonts

The standard recommended font used for euBusinessGraph in all online publications and documents is “droid sans”. The font has a neutral, yet friendly appearance and was designed by Steve Matteson in 2007. It is optimised to work on mobile devices.

Figure 2 – Font Droid Sans

2.4.1.4 Language

Part of the identity is also the consequent use of one language. The standard language for euBusinessGraph is UK English and it will be applied to all publications. Clear and simple language is encouraged. Sentences and paragraphs should be kept short. Text should be attractive to readers and easily accessible to non-technicians.

2.4.1.5 Compulsory elements

Complementary to the design features that must be taken into account, all publications (flyer, poster, website, roll-up, twitter account etc.) published by euBusinessGraph must contain the following compulsory elements:

- The euBusinessGraph logo in conjunction with the European flag.
- The web address and/or contact details of euBusinessGraph.
- A standard acknowledgment for the Horizon 2020 Program (see below) must be included into all publications, which express opinions.

The standard acknowledgment is: „This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 732003.”

2.4.1.6 Slide template

The slide template is primarily used for project presentation and documentation and will be developed as soon as the logo in the final color scheme is available. In order to keep the project's identity coherent across all publications, project members are strongly requested to use the template.

2.5 Communication channels

The euBusinessGraph project uses various communication and dissemination channels. The website and the Twitter account serve as key channels for the collection and distribution of communication and dissemination activities. Further social networks and collaboration platforms (Linkedin and GitHub) serve as additional channels to interact with potential stakeholders.

2.5.1 Website

The website serves as the main communication channel for the euBusinessGraph project. It also integrates the euBusinessGraph Twitter feed to enrich communication and dissemination to the public. The website is maintained by EVRY.

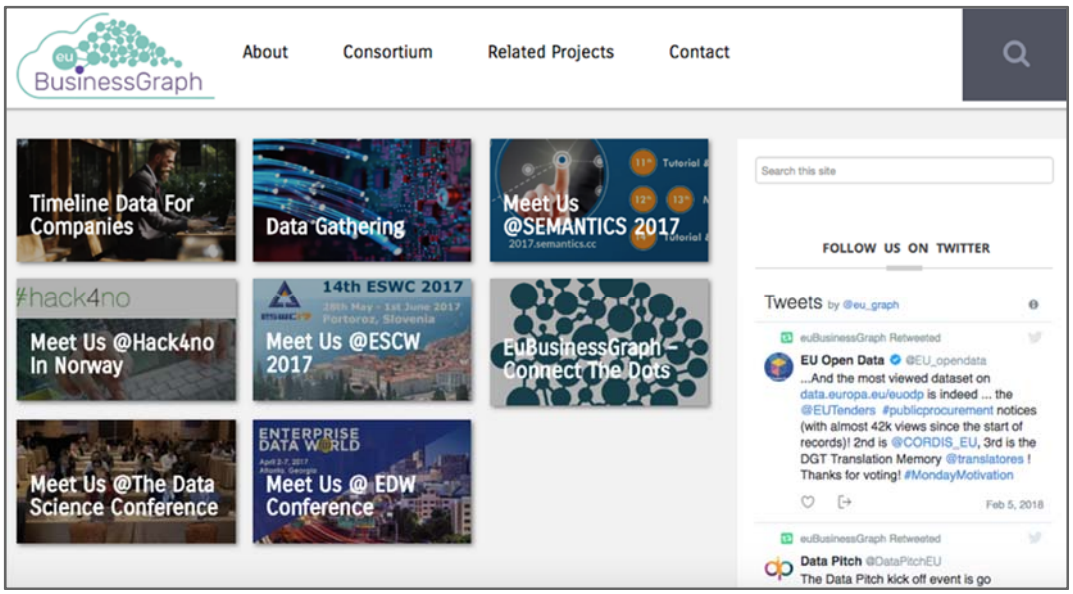

Figure 3 – The euBusinessGraph website, http://eubusinessgraph.eu

Although the technical and structural responsibility of the website is limited to EVRY and Deutsche Welle, all consortium partners are involved in creating content to the website. This will ensure that the content and dissemination to the public is a joint effort including contributions from the consortium as a whole.

The euBusinessGraph website is created using the Wordpress[2] publishing platform. The instance of Wordpress runs in a tenant on Microsoft Azure.

Microsoft Azure[3] is a collection of integrated cloud services that developers and IT professionals use to build, deploy, and manage applications through a global network of datacenters. With Azure it is possible to build and deploy solutions using tools, applications, and frameworks within the service.

The widely adopted Wordpress Content Management System (CMS) was chosen by the consortium because of its easy-to-use interface and its ability to apply a wide range of plugins to build rich and user friendly websites. Wordpress is implemented in the PHP web scripting language and relies on

[2] https://wordpress.com/com-vs-org/
[3] https://azure.microsoft.com/en-us/?b=17.06

MySQL database. Several plugins have been added to the base installation of the CMS. The most important plugins installed are:

- **Akismet** – to protect the blog from spam
- **Contact Form** - to create contact forms
- **Google Analytics** – to do analytics and statistics on usage of the website
- **Yoast SEO** - to create search engine optimised content

Additionally, a Twitter[4] stream has been implemented into the website. It dispatches news and serves as a communication channel to interact with other people interested in the same area of knowledge as where euBusinessGraph operates. The Twitter account can be found at: https://twitter.com/eubusinessgraph.

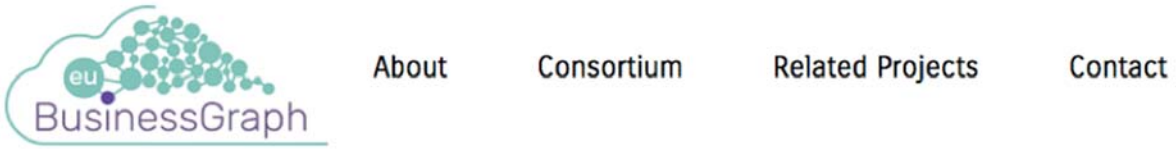

Figure 4 – The euBusinessGraph website's main menu

About
The About page is dedicated to the euBusinessGraph business cases:

- #1 Corporate Events Data Service (OpenCorporates)
- #2 Tender Discovery Service (CERVED)
- #3 B2B Lead Generation Service (SDATI, ATOKA)
- #4 CRM Service (EVRY)
- #5 Journalism Product (DW)
- #6 Norwegian Registries API Service (BRC)

Each business case is described on its own page.

Consortium
The Consortium page briefly introduces the euBusinessGraph partners and the respective partner's contribution to the project.

Related Projects
Other EU funded projects that relate to the euBusinessGraph project are introduced and linked on this page.

Contact
The contact page describes how to get in contact with the euBusinessGraph project and contains a contact form and basic contact information.

Impact Metrics
The website is running Google Analytics for measuring traffic on the website. This tool provides important information on who visits the website, what they are looking for, and how they are getting to the site. The information provided by the analytics tool is important in order and to assess and improve the effectiveness of the website.

[4] https://twitter.com/eu_graph

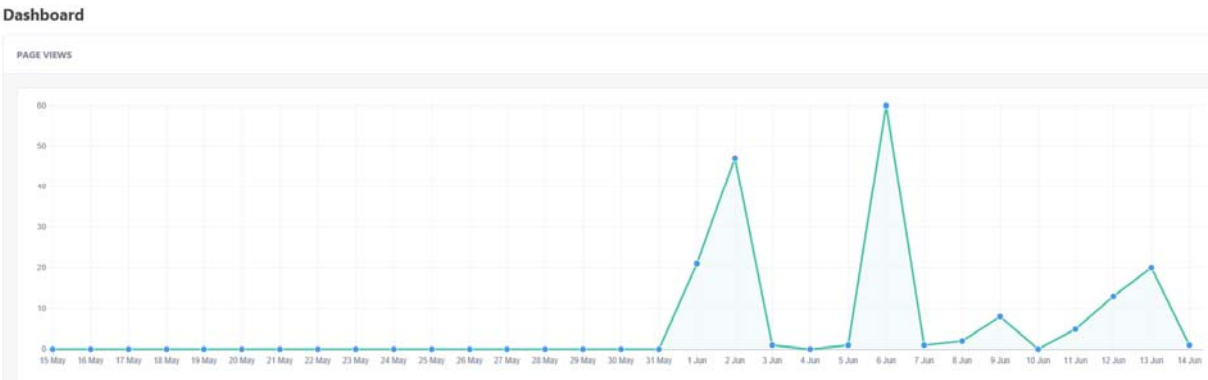

Figure 5 – Google Analytics provides information on page visits to the website

TOP POSTS AND PAGES

TITLE	VIEWS
/	72
/eubusinessgraph/	22
/partners/	17
/contact/	14
/related-projects/	13
/2017/03/28/eubusinessgraph-connecting-the-dots/	9
/2017/06/02/meet-us-hack4no-norway/	9
/2017/05/09/meet-us-escw-2017/	5
/norwegian-registries-api-service-brc/	4
/2017/03/16/meet-us-data-science-conference/	3

Figure 6 – The most popular sites on the website measured in page hits

Engagement strategy
Since much of the project work is carried out in the work packages (WP), the partners responsible for the work package are appointed to document and disseminate the results in posts to the website.

The posts are news articles which the euBusinessGraph have divided into three categories:

- Meet us @
- News
- Project Update

The reason behind this categorization is to ease navigation for the end user. Some users enter the website to get information about the project progression, others may be searching for arenas to meet the project partners. An initial publishing plan has been introduced to the consortium. The publishing plan will be detailed as the project progresses.

Theme	Responsible partner	Publishing date
Post #1 Executive summary of the project	SINTEF	March 10th 2017
Post #2 WP1: Data Gathering	JSI	April 10th 2017
Post #3 WP1: Data Quality Asessment	OCORP	May 10th 2017
Post #4 WP1: Data Onboarding	SINTEF	June 10th 2017
Post #5 WP1: Data Management Plan	UNIMIB	August 10th 2017
Post #6 WP2: System Identifier	OCORP	September 10th 2017
Post #7 WP2: Development Data Models	SDATI	October 10th 2017
Post #8 WP2: Unstructured Data, Event & Relation	JSI	November 10th 2017
Post #9 WP3: Data Preperation Services	SINTEF	December 10th 2017
Post #10 WP3:Data Interlinking Services	UNIMIB	January 10th 2018

Figure 7 – The initial recommended publishing plan

The euBusinessGraph consortium has also agreed on some basic guidelines for writing "Project Update" articles. The guidelines state that an article should include a description of the following:

- Status of the work
- Challenges faced
- Possible solution(s) to the challenge
- 500-800 words maximum
- Minimum one image/picture to illustrate the article

The Twitter feed is a central component of the main page. The feed is one of the most important dissemination channels, with high potential of reaching a relevant audience with updates about the project.

2.5.2 Twitter

Twitter is very useful to inform and engage with our target groups and collect valuable feedback along the course of the project. A study published in Journalism & Mass Communication Quarterly states that Twitter will be an increasingly important channel to keep a community informed. Information about the latest news, updates and events - including business cases-related progress - will be disseminated via Twitter.

Figure 8 – The euBusinessGraph Twitter account, https://twitter.com/eu_graph

In order to connect to already existing communities euBusinessGraph will make intense use of the following hashtags: #linkeddata, #companydata, #businessdata, #knowledgegraph, #opendata, #dataanalytics, #H2020. We will closely monitor Twitter in order to identify new relevant hashtags at an early stage.

euBusinessGraph is using mainly two tools for the analysis of its Twitter activities: This is Twitter's own analytics system and for a more comprehensive picture, we will also use Twitonomy, which is a third party analytics tool.

2.5.3 LinkedIn

Linkedin is a professional global network where euBusinessGraph expects to meet and address not only target groups from the research communities but also potential users of market areas that we are addressing specifically (content provider, brand management companies).

We will also use it as a dissemination channel and syndicate it with articles written for the euBusinessGraph project's website.

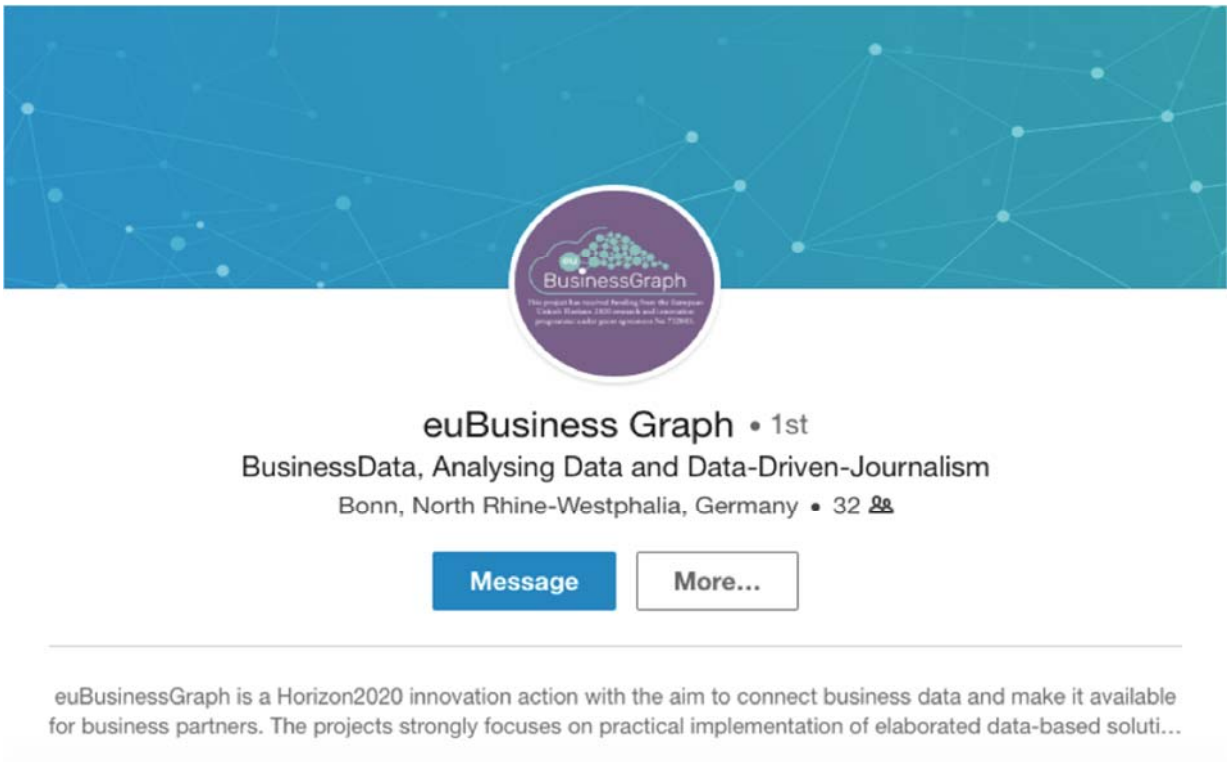

Figure 9 – The euBusinessGraph LinkedIn account, https://www.linkedin.com/in/eubusiness-graph-308424139/

2.5.4 GitHub

GitHub is an online sharing and collaboration platform for code and coding projects. This network is highly useful when promoting prototypes or code fragments to the research community. A first account has already been established and will be filled with content as soon as it is produced. In parallel, we will inform our website and Twitter audience whenever major updates on GitHub are available.

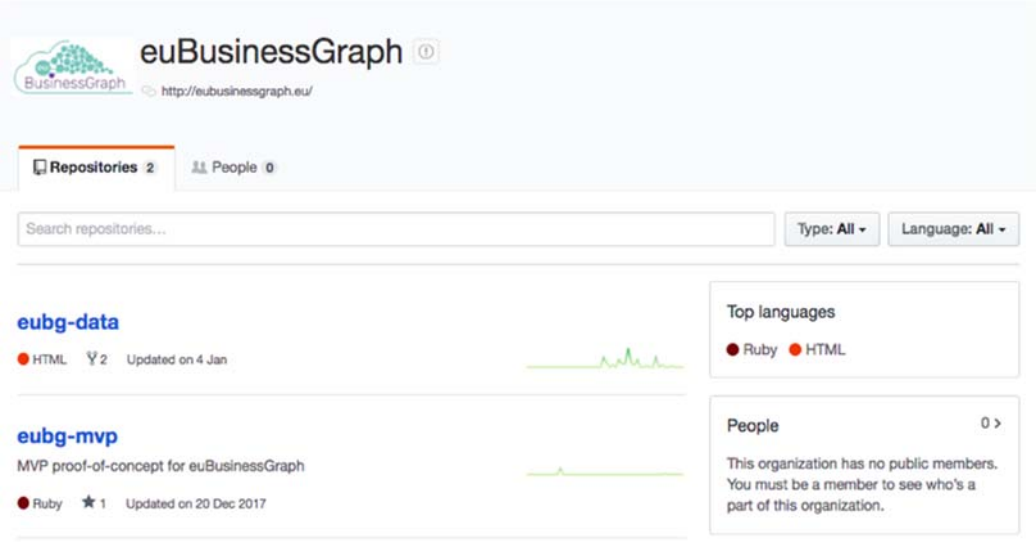

Figure 10 – euBusinessGraph on GitHub, https://github.com/euBusinessGraph

2.6 Media

The media outlets of the euBusinessGraph Project comprise print material (poster, roll-up, flyer) and online media, such as short videos explaining the ideas of the project. It is important to keep in mind that especially the poster and the roll-up need to reflect the needs of the individual business cases. Therefore, the design needs to be flexible in terms of easily adapting the size of the logo of the presenting partner.

2.6.1 Poster

The euBusinessGraph poster is available in two versions. The general poster shall attract visitors at first glance and make them curious to learn more about the project. A variant version - created by Ontotext - enables a deeper impression of the architecture and the key features of the project.

Figure 11: General Poster of euBusinessGraph

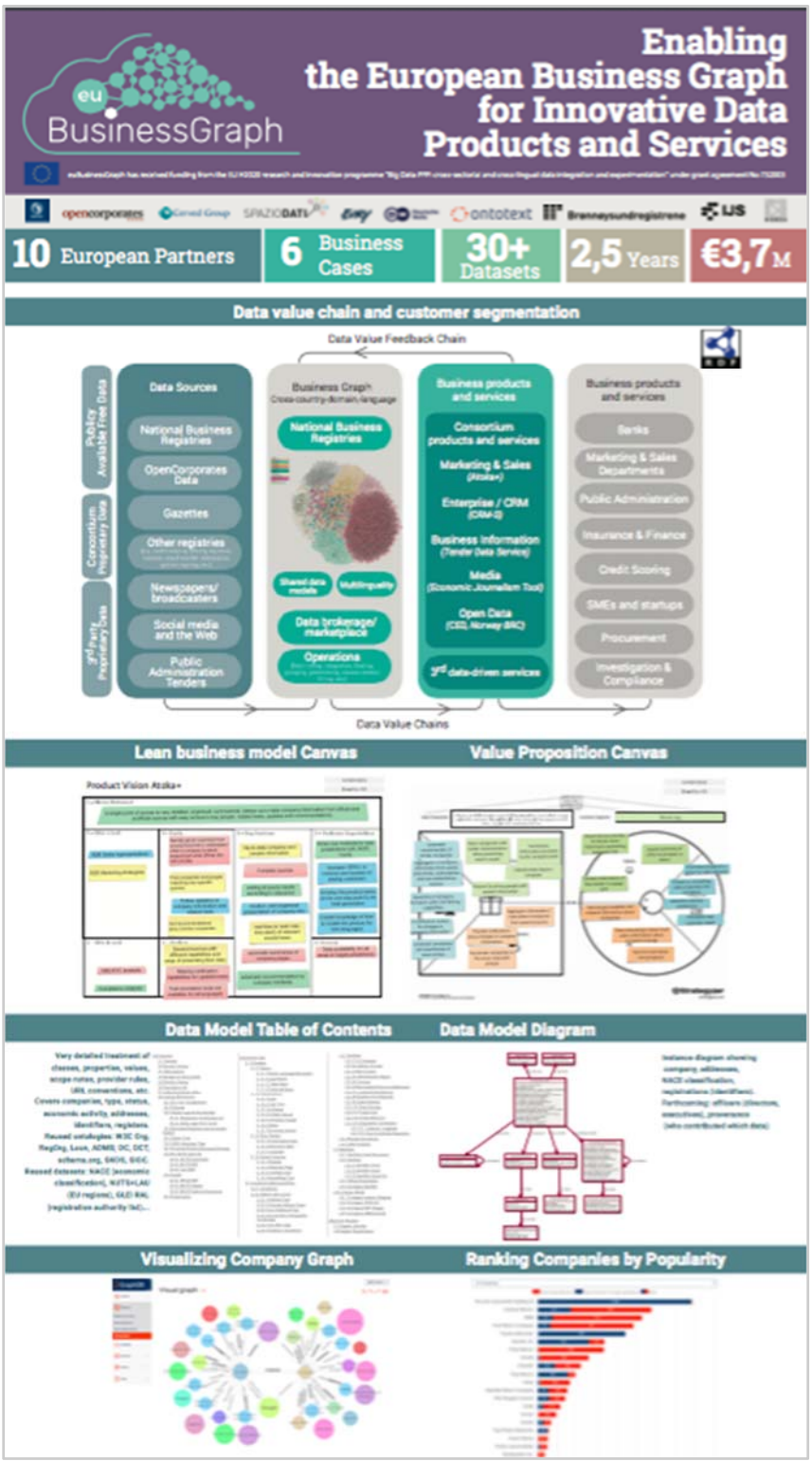

Figure 12: A variant of poster showing the technical set-up of euBusinessGraph

2.6.2 Flyer

The flyer is primarily used as a giveaway on conferences and fairs. The main objective of the flyer is to provide a first overview about the project, its goals and its members. For further information users are encouraged to go to the euBusinessGraph website and to stay in contact via Twitter.

Figure 13: First version of the euBusinessGraph flyer

A follow-up version of the flyer will also showcase the marketplace and the "graph" of the project.

2.6.3 Roll-up

The main objective of the project roll-up will be to attract the attention of interested users. It will be used as a “door-opener” for booth talks at conferences.

Figure 14: The euBusinessgraph roll-up is supposed to make curious

2.6.4 Question / Answer Video Series

Within the first year, we plan to create several short video clips showing the potential of the euBusinessGraph project. The idea is to create a series of short, entertaining and informative video clips about the project's objectives and the envisioned solutions it brings to big data analytics business markets. In the course of the project the focus will move from explaining the ideas and the technology towards the question of how potential stakeholders can make use of the graph and the marketplace. The clips will also be published on the website as well as on Twitter.

2.7 Papers & Publications

The majority of partners from the euBusinessGraph project will publish scientific papers, which will be made publicly available on the website. Papers are expected to be published during the whole project, with an emphasis on the second half of the first year and all of remaining one and half years.
All papers and other publications (e.g. book sections, company magazines) that will be produced in the project's lifetime will be referred to on the euBusinessGraph's website.

2.8 Disseminating events

Disseminating the progress and research findings in conferences, hackathons and summer schools is a major dissemination activity. Each partner is strongly encouraged to provide a short description of the planned activities before the event and a short summary including a picture once the event is finished. This material will be the basis for short updates on Twitter and the website. It will be used to keep our audience informed about ongoing activities.

Figure 15: "Meet Us @Hack4no In Norway" example (Source: euBusinessGraph website)

2.9 Collaboration with other projects and initiatives

There are several projects and initiatives that euBusinessGraph will take the opportunity to connect with. They are listed on the website in the section "Related Projects". Especially dissemination events will be used to network and make new connections the project can benefit from.

BDVA Association
euBusinessGraph is a PPP project[5] of BDVA. The Big Data Value Association (BDVA) is a private, industry-led and non- profit association with the mission of boosting European BIG DATA VALUE research, development and innovation and fostering a positive perception of BIG DATA VALUE. The aim is to maximize the economic and societal benefit to Europe, its businesses and its citizens, and enabling Europe to take the lead in the global data-driven digital economy.

EWShopp Project
The objective of the EWShopp project is to support companies operating in the fragmented European ecosystem of the eCommerce, Retail and Marketing industries to increase their efficiency and competitiveness by leveraging deep customer insights based on data gathering. Furthermore EWShopp shares the same runtime as euBusinessGraph.

eSides Project

[5] http://www.bdva.eu/?q=ppp-projects

e-SIDES is an EU-funded Coordination and Support Action (CSA) that will complement the Research and Innovation Actions (RIAs) of the ICT-18 call on privacy-preserving big data technologies by exploring the societal and ethical implications of big data technologies and providing a broad basis and wider context to validate privacy-preserving technologies.

More potential projects and initiatives will be identified during the course of the project.

2.10 Evaluation and Reporting

The success of the project's communication efforts need to be closely monitored. In order to be able to do this effectively different measurements have to be taken into account:

- Firstly, the **quantity of interactions**: Counting the number of visits on the website, the number of followers on Twitter, the view of sources on GitHub. Data from other platforms such as Linkedin will be collected over time and added to the main statistics collection.
- Secondly, the **quality of engagement**: Indications for this category are for instance the number of returning visitors or the number of retweets on Twitter. These metrics help to understand whether the communication is reaching the intended target groups.

In order to find potential users for the euBusinessGraph platform, valuable information can be collected by closely observing the numbers in the following table:

Table 3 – Overview Communication Means and Progress

Activity	Plan	Description	Status (M6)
Website	Total of 7.000 visits	Y1: 2000 visitors, Y2: 3000 visitors, Y3 (half): 2000 visitors	**1131 visits***
Twitter	Total of 150 followers	Y1: 60 follower, Y2: 60 follower, Y3 (half) 30 followers	**102**
Tweets	Total of 250 tweets / retweets	Y1: 100 Tweets, Y2: 100 Tweets, Y3 (half): 50 Tweets	**105**
Linkedin	Total of 80 members	Y1: 30 Members, Y2: 30 Members, Y3 (half): 20 Members	**32**
Github	Total of 30 watches	Y1: 10 watches, Y2: 10 watches, Y3 (half): 10 watches	**11**
Flyer	2		**1**
Poster	1+	Poster plus customizable partner logos	**2**
Roll-up	1		**-**
Q&A Videos	15	Y1: 6 videos, Y2: 6 videos, Y3 (half) 2 videos	**0**

Legend:

In line	Watch	Act

The progress of the communication activities is very good. The lower numbers of the website are due to the fact, that there were issues with the statistic tool, which only started counting from July 2017 onwards. The production of videos is running late. We will produce a series of Q&A videos in the first quarter of year two.

2.11 Sustainability

To ensure the availability of the work performed by the euBusinessGraph project, the consortium aims at keeping dissemination channels available for a period of at least two years after the end of the project. This will include the website, and the social media channels (GitHub, Twitter).

Please note that the channels will be kept available without any partner of the euBusinessGraph consortium providing any new editorial content or active maintenance (unless specifically otherwise agreed by the euBusinessGraph consortium).

2.12 Conclusions

Communication and dissemination activities are a central building block throughout the project's life cycle. There are quite a few factors that define a successful strategy. Besides being coherent in the communication strategy it is important to address potential users on social media and other platforms that they are using. Therefore, euBusinessGraph establishes a multi-platform strategy which includes publishing on many (select) social networks. Furthermore it is crucial that all project partners contribute regularly in order to maintain a reliable and valuable relationship with the audiences and constantly keep them informed.

3 Exploitation Strategy

To enable euBusinessGraph achieving its intended impact, the consortium has been actively engaging in the exploitation activities below:

(i) Workshop with consortium partners on lean business model methodology and canvases for euBusinessGraph data marketplace.

(ii) Survey to test the validities of the business model and hypotheses extracted from the canvases.

(iii) Engagement with external partners that could be the potential partners / users of the data marketplace. Feedback from these partners was evaluated and considered in the development phase of the data marketplace.

The sections below describe these activities in detail.

3.1 Product Vision Board

Product envisioning describes what the future product will look like and do.

euBusinessGraph is positioned to be the key initiative to simplify cross-border and cross-lingual collection, reconciliation, aggregation, and provisioning of company-related data from (authoritative and non-authoritative) public and private sector sources. The aim of euBusinessGraph is to enable cross-sectorial innovation based on company-related data.

The target customers of the data marketplace cover a wide range of business entities, which have processes, products or services that incorporate company-related data in their offerings and operations. This could potentially be customers that consume and provide data, or service providers that perform various types of data service on the data available on the data marketplace.

In one sentence, the vision statement for euBusinessGraph is to deliver world-class company datasets and analytics across borders and languages (as shown in Figure 16).

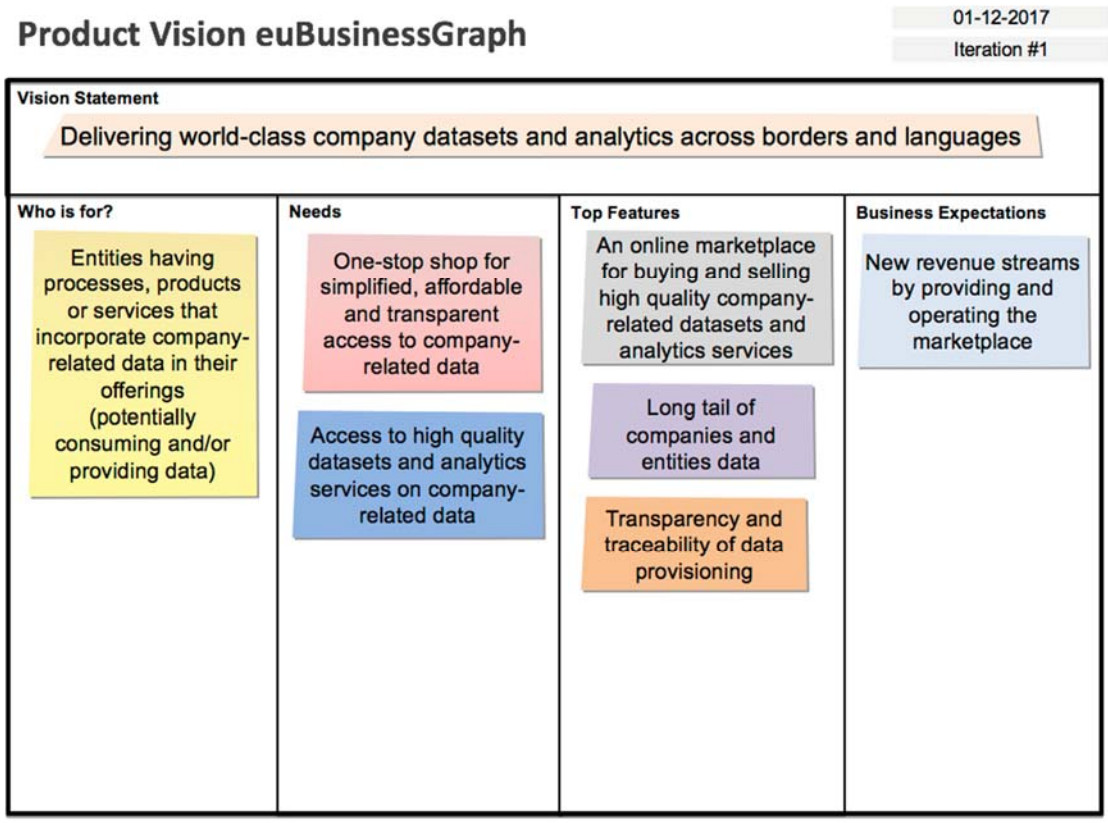

Figure 16: euBusinessGraph Product Vision Canvas

3.2 Lean Business Model Canvas

The lean business model canvas is a chart with elements describing euBusinessGraph Data Marketplace's value proposition, customers and finances, the problem the data marketplace is trying to solve, the solutions it presents, key metrics, and competitive advantage (Figure 17). This canvas is a fast and effective way to communicate the business model of euBusinessGraph Data Marketplace in graphical form to internal and external stakeholders.

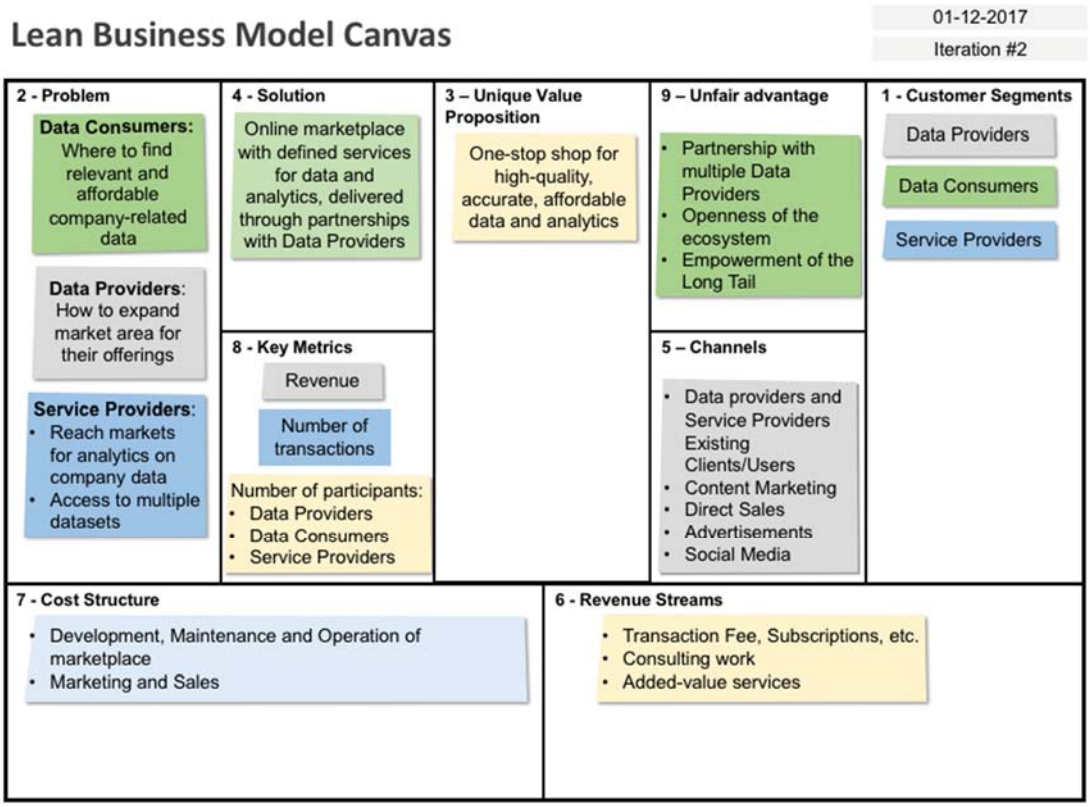

Figure 17: euBusinessGraph Lean Business Model Canvas

3.3 Value Proposition Canvas

The Value Proposition canvas describes how we are going to create values for the three user segments identified for the euBusinessGraph Data Marketplace. The three user segments are:

(a) Data Provider – this group of users has data which they would like to monetize, a data marketplace such as euBusinessGraph could provide a channel for them to achieve this. For example, an organisation which has information on outstanding invoices in their Enterprise Resources Planning (ERP) solution and provide this information to credit scoring companies at a fee.

(b) Data Consumer – this group of users require certain types of business-related data in the daily operation of their organisations to help them make better business decision. For example, an organisation gets credit scoring report at a fee to evaluate the strength of the financial footing of a potential customer or vendor. Such report can help them to analyse the risk they are being exposed to in every new business venture.

(c) Service Provider – this group of users can provide better visualisation of the data available on the data marketplace. They can potentially provide various data services on the vast amount of data available on a data marketplace such as data cleaning and data quality assurance.

This type of canvas consists of a Customer Profile describing the user segments in the business model and a Value Proposition Map describing features of a specific value proposition for a product.

We created three canvases (Figure 18, 19 and 20), one for each of the three user segments we identified above.

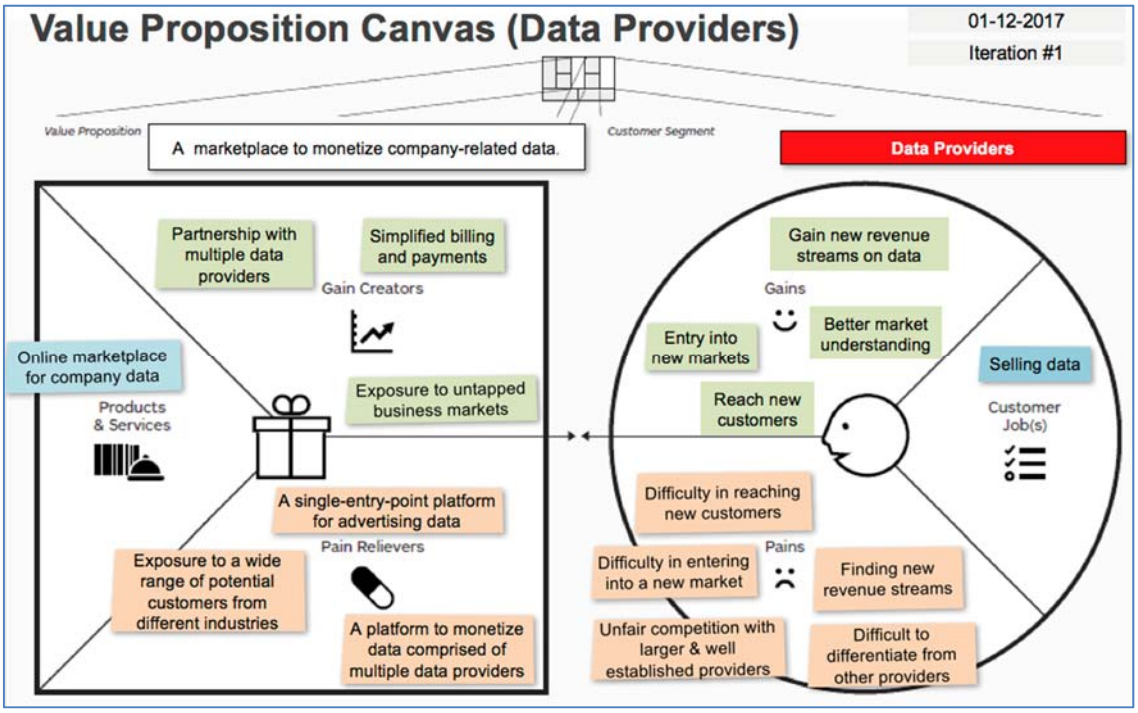

Figure 18: Value Proposition Canvas (Data Providers)

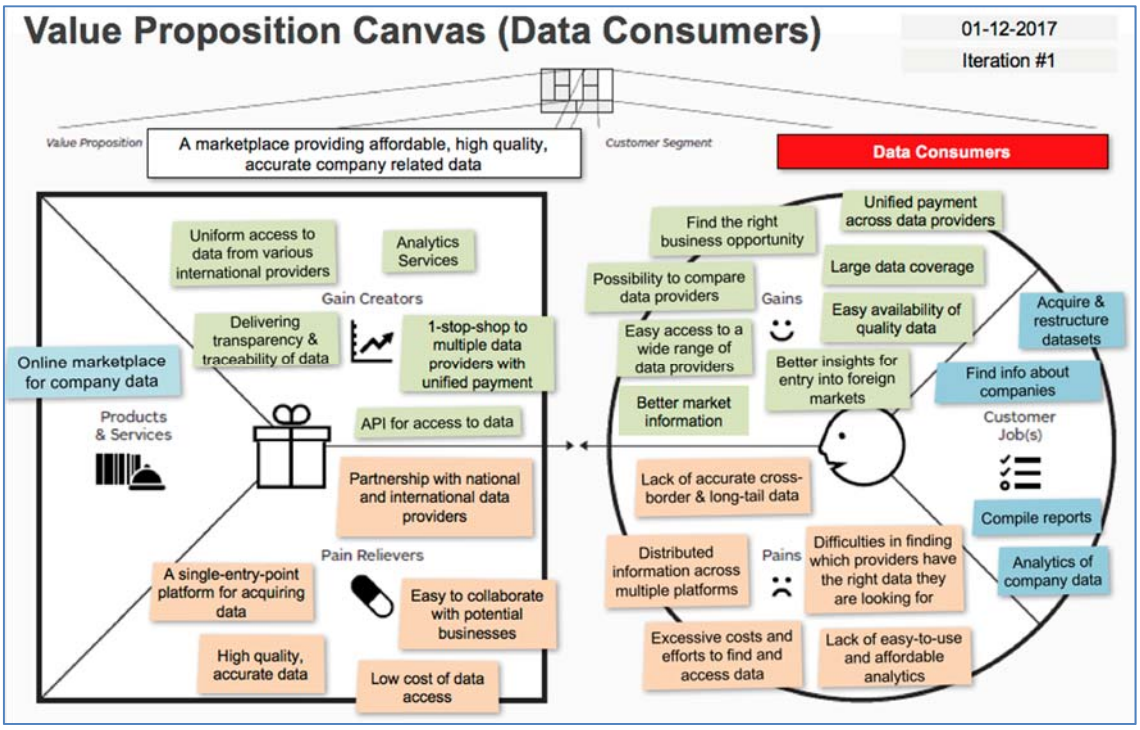

Figure 19: Value Proposition Canvas (Data Consumers)

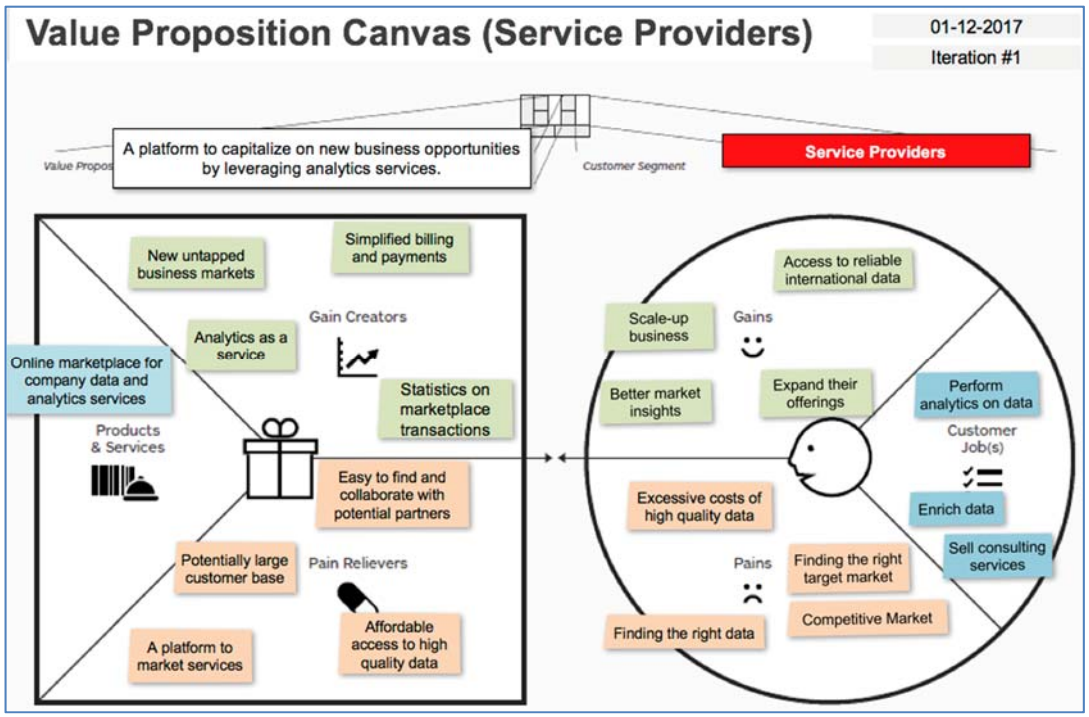

Figure 20: Value Proposition Canvas (Service Providers)

3.4 Hypotheses Extraction and Validation

Based on Value Proposition and Business Model Canvases, business hypotheses were extracted to test among partners in the consortium and external partners that could be the potential users of the data marketplace.

To test out the validities of the hypotheses, three surveys in the form of Likert Scale were created on Survey Monkey and sent out to potential data providers, data consumers and service providers of the data marketplace (Figure 21).

A total of 22 respondents participated in the survey in the course of one month (10 for data proviers, 6 each for data consumers and service providers).

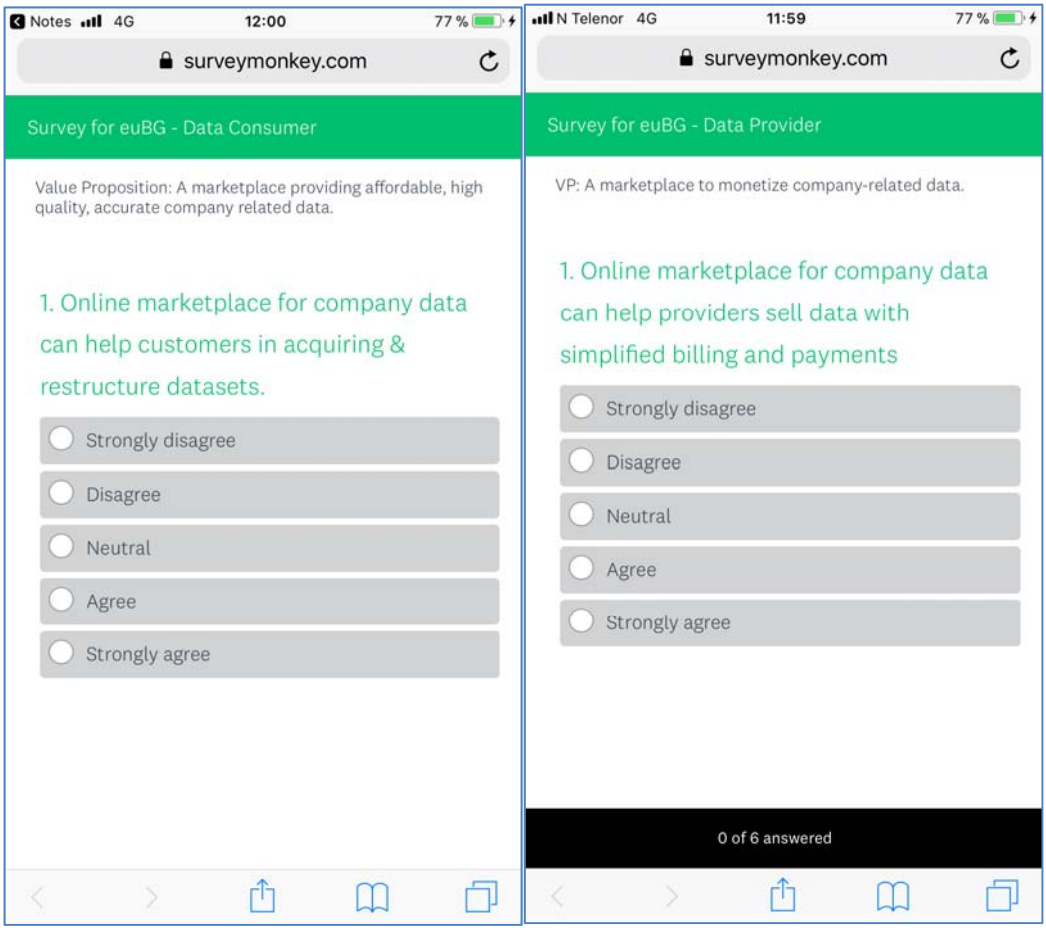

Figure 21: Likert Scale Survey on Survey Monkey

3.4.1 Potential External Partners

In the attempt to understand the nature of the data marketplace industry and to acquire validation to our hypotheses, we engaged four potential partners for euBusinessGraph data marketplace. In Lean Business Model and Value Proposition Design thinking, it is vital to test our ideas and hypotheses with potential customers (in the wild), so that we involve potential users of a product / service early on and get their feedback during the development phase of the product / service. This is to avoid developing a product / service which is out of touch in the real business world. The main idea behind this design thinking is to test out ideas quickly and undergo numerous iterations during the development of a product or service.

Over the course of two months, we had meetings and conference calls with the following partners to understand the nature of their business and get them to participate in our surveys.

Table 4: Potential External Partners for euBusinessGraph Data Marketplace

No	Company (Country)	Profile
1.	Visma Collectors (Norway)	A business unit within Visma, the Scandinavian Enterprise Resources Planning (ERP) platform, Visma Collectors help their customers to collect payment. They provide outstanding invoices data to Bisnode/Dun & Bradstreet and are looking for new channels to sell their data. Their interests in euBusinessGraph Data Marketplace is to get more customers.
2.	IPlytics (Germany)	A start-up that provides an online-based market intelligence tool to analyse technology trends. It also provides intelligence for strategic business decision making for their customers. Currently source their data in the public domain such as IP pattern registries. They require

		basic company data such as parent company and subsidiaries data in other jurisdictions such as Italy.
3.	Info Register (Estonia)	They provide a professional tool for comprehensive overview of business partner background, payment behaviour and financial standing. Similar to Cerved, they also provide credit reports, due diligence, monitoring and media insights.
4.	Infotorg (Norway)	A business unit within EVRY, they provide information on property, business, individual, vehicles and credits for business. They require bankruptcy data, key personnel roles and three years financial data from BRC.

3.4.2 Survey Results

According to the value proposition design methodology, business hypothesis is a statement that needs to be true for an idea to work partially or fully but has not been validated yet. Nonetheless, not all hypotheses are equally critical. Some can have severe consequences on the survival of the new business venture while others less. Our hypotheses were ranked according to their criticality, from critical to survival, to less critical to survival.

3.4.2.1 Data Providers

The two highest weighted averages (WA) for this survey on data providers do not come as a complete surprise to us. More and more organisations today are looking for new ways to monetise their data as part of their initiative to be data-driven. Just as in any other marketplace today, data providers (the parties with something to sell), are always keen on a marketplace that can provide the best exposure / audience for their data. This means that they want to participate in a marketplace with customers from a wide spectrum of different industries.

Below is the result from Likert Scale for data providers:

H1: 2 Strongly Agree, 5 Agree, 2 Neutral, 1 Disagree (Weighted Average: 3.80)

H2: 1 Strongly Agree, 7 Agree, 1 Neutral (1 Skipped) (Weighted Average: 4.00)

H3: 1 Strongly Agree, 2 Agree, 5 Neutral (2 Skipped) (Weighted Average: 3.50)

H4: 1 Strongly Agree, 5 Agree, 4 Neutral (Weighted Average: 3.70)

H5: 3 Strongly Agree, 3 Agree, 3 Neutral, 1 Disagree (Weighted Average: 3.80)

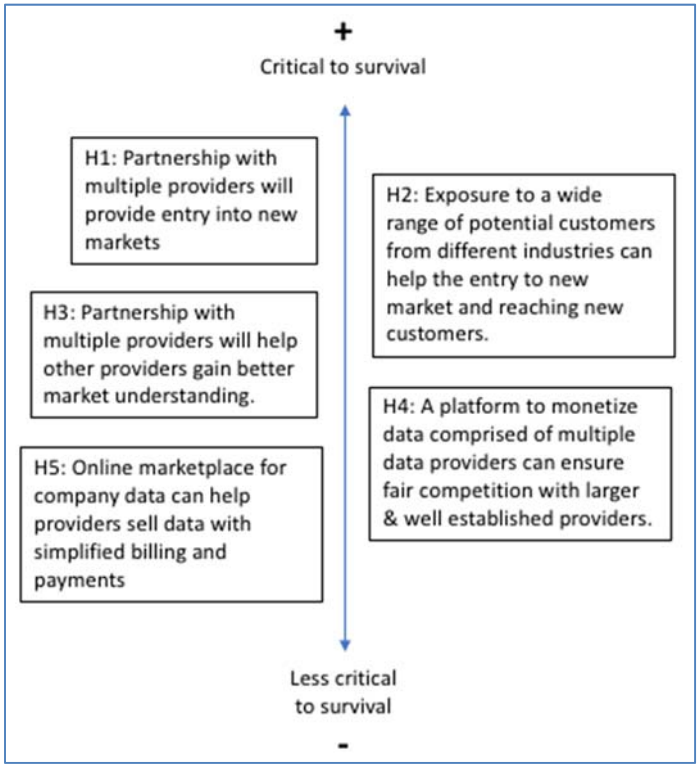

Figure 22: Prioritized hypotheses for Data Providers

Likert Scale - Strongly Disagree (1), Disagree (2), Neither Agree nor Disagree (3), Agree (4), Strongly Agree (5)

3.4.2.2 Data Consumers

Just as the basic principles of any marketplace in 3.4.2.1 above, the buyers in a marketplace, in this case data consumers would like to be in a marketplace where they can get the best options of different data providers. This is the reason why the data consumers surveyed would like to have a single-entry-point platform for acquiring data to ease the pain of going to different platforms (marketplaces) to look for the data that they want. Uniform access to data from various providers can also give them the possibility to compare the data on offer, especially on the pricing part. The other hypothesis that is ranked highly in the survey is the ability to trace the source of the data and transparency of the data. This is in contrast to some of the major business score providers in the market today, where the source of their data is unknown and cannot be traced.

Below is the result from Likert Scale for data consumers:

H1: 1 Strongly Agree, 2 Agree, 3 Neutral (Weighted Average: 3.67)

H2: 2 Strongly Agree, 3 Agree (1 Skipped) (Weighted Average: 4.40)

H3: 2 Strongly Agree, 4 Agree (Weighted Average: 4.33)

H4: 5 Agree, 1 Neutral (Weighted Average: 3.83)

H5: 2 Strongly Agree, 4 Agree (Weighted Average: 4.33)

H6: 2 Strongly Agree, 1 Agree, 3 Neutral (Weighted Average: 3.83)

Likert Scale - Strongly Disagree (1), Disagree (2), Neither Agree nor Disagree (3), Agree (4), Strongly Agree (5)

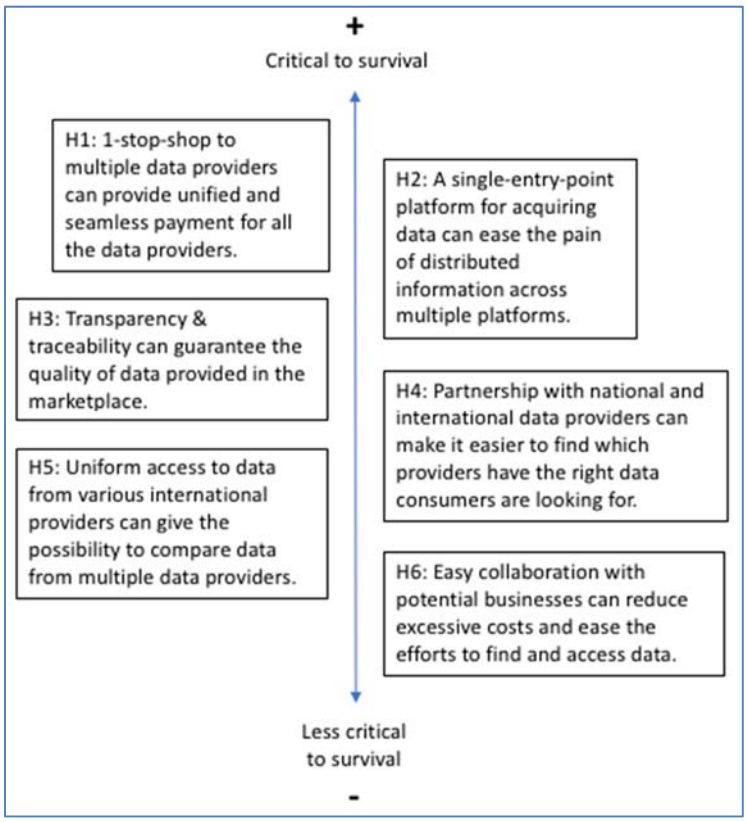

Figure 23: Prioritised hypotheses for Data Consumers

3.4.2.3 Service Providers

The role of service providers we envisioned for the data marketplace is to perform analytics on the data and to provide better market insights from the data. This is compliant with the two highest WA hypotheses on our survey for service providers.

Below is the result from Likert Scale for service providers:

H1: 2 Strongly Agree, 4 Agree (Weighted Average: 4.33)

H2: 1 Strongly Agree, 2 Agree, 3 Neutral (Weighted Average: 3.67)

H3: 1 Strongly Agree, 4 Agree, 1 Neutral (Weighted Average: 4.00)

H4: 1 Strongly Agree, 3 Agree, 2 Neutral (Weighted Average: 3.83)

H5: 3 Strongly Agree, 2 Agree, 1 Neutral (Weighted Average: 4.33)

H6: 1 Strongly Agree, 4 Agree, 1 Neutral (Weighted Average: 4.00)

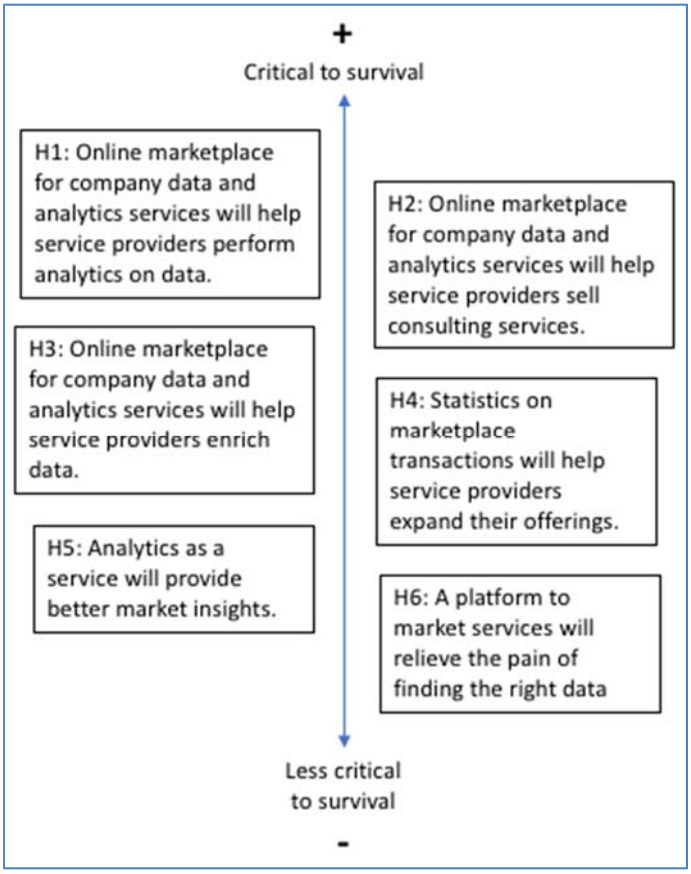

Figure 24: Prioritized hypotheses for Service Providers

Likert Scale - Strongly Disagree (1), Disagree (2), Neither Agree nor Disagree (3), Agree (4), Strongly Agree (5)

3.5 Testing Cards and Learning Cards

The first set of testing and learning cards was planned after the completion of the Value Proposition Canvases for euBusinessGraph Marketplace, to test the hypotheses we extracted from the business model and value proposition canvases and validate these hypotheses in surveys.

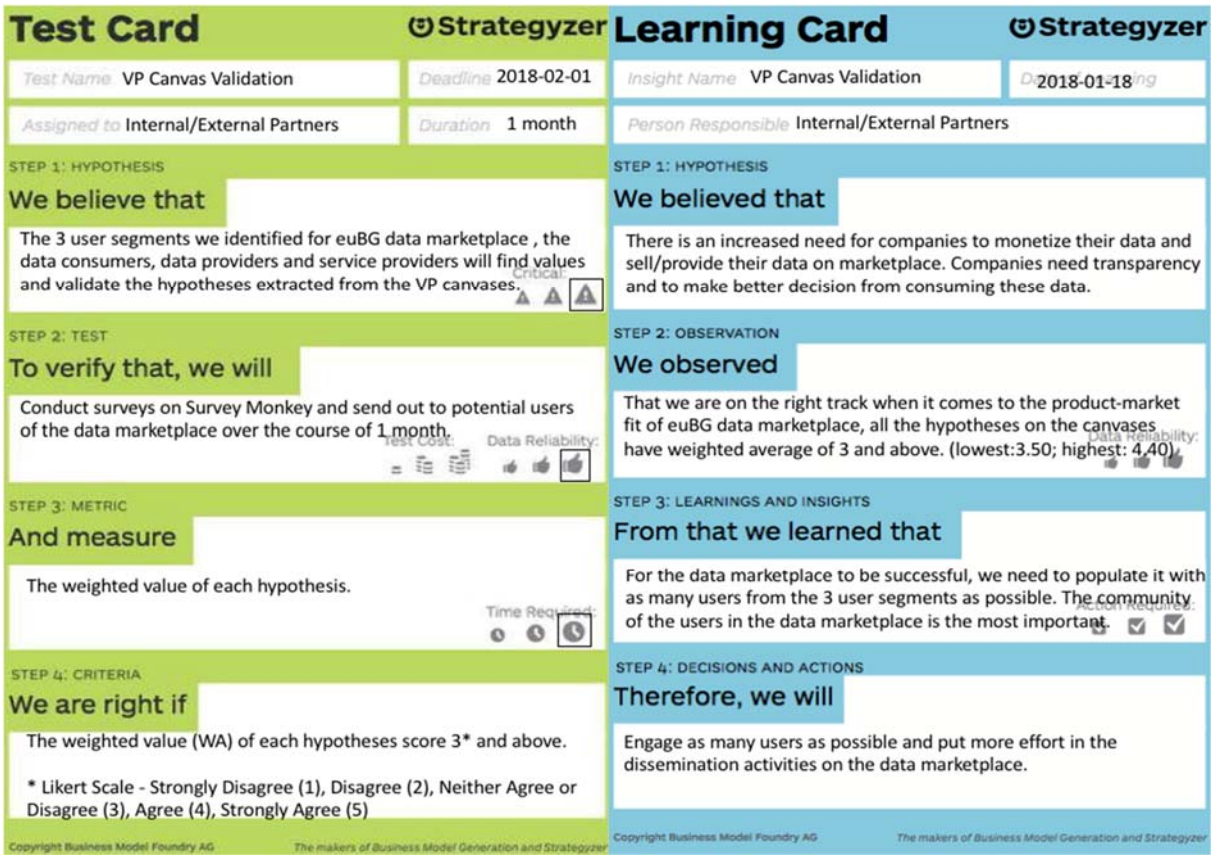

Figure 25: Learning and testing card for euBusinessGraph Marketplace

All the WA collected from the survey have the value of more than 3.00, which is neutral. Thus, it is apparent that all the hypotheses extracted from the canvases are validated (lowest WA: 3.50 and highest WA: 4.40) by partners in the consortium and the potential external partners.

With this, we can conclude that in order for the euBusinessGraph data marketplace to be successful, we need to engage as many data providers and data consumers as possible. It is the diversity of different data types across the whole spectrum of different industries that is important for the users of the data marketplace. For data providers, it is the exposure to as many data consumers as possible in different industries; while for data consumers, it is the exposure to as many data providers as possible so that they have single access to different providers to compare the data types they are interested in.

3.6 Business Model for euBusinessGraph Marketplace

This document discusses the various issues that need to be decided on before the establishment of a marketplace for euBusinessGraph. Even though some of the issues have clear recommendations from the project, each one of them needs to be scrutinised in order to test and verify its validity. Conclusions will then be made as to the final recommendations for the Business Model.

3.6.1 Organisation

It might be beneficial if the marketplace is established as a separate business entity, outside the consortium. The marketplace could either be established as a stock holder company, or as a cooperative society. For transparency and ease of management, the former would be most appropriate.

Another possible model is to let a given partner set up and administrate the marketplace on behalf of the other consortium partners. This partner would administrate the governing of the marketplace and the sale of data on behalf of the other partners and would need to cover their costs out from the generated revenue. EVRY's InfoTorg subsidiary is a good candidate for this model, as an established vendor of third-party business data.

3.6.2 Charter

The charter needs to have a clear statement on what the purpose of the marketplace is, the scope and the limitations as well as the statutes governing the organisation of the marketplace. A governing board should be selected, drawing its members from the various organisations behind the marketplace.

3.6.3 Operating Model

Three different operating models have been suggested:
1. One partner in the consortium as the operator of the marketplace.
2. Two or more partners in the consortium as the operators of the marketplace.
3. An organisation outside the consortium becomes the operator of the marketplace.

All three models have their limitations. The two main dimensions in this is the cost and profit sharing structure, and the licensing and ownership of data. In order to ensure a fair and transparent structure, and to avoid transfer of ownership of data and responsibility from one partner to another, a separate governing body and separate organisation is needed. This body must be owned by all partners with equal access and equal rights.

This governing body could then purchase needed services from either one or more of the partners in the consortium, or from an external service provider. This would ensure a needed degree of flexibility to develop the marketplace autonomously outside the business interests of given partners and would also provide transparency with regards to the profits and costs.

3.6.4 Business Model

We suggest a subscription model for the marketplace, where customers choose a license fitting their needs, and is billed monthly, semi-annually or yearly for this license. The subscription cost should be competitive with vendors such as Dun & Bradstreet, etc.

The profit should be distributed to the shareholders either per share, or per actual use of their data.

3.6.4.1 Licensing Models

The licensing models should be simple to understand and use. Some data are already public domain (such as the Norwegian Business Register) and should probably be offered for free, while other data is considered proprietary. Depending on the type of data and the ownership, several license tiers could be considered. Another issue is the number of monthly requests a user performs towards the service, which should be billed accordingly.

3.6.4.2 Suggested License tiers

- Free: Public domain data only
- Business: Public domain data, as well as some value-added data
- Enterprise: Full access to everything

Other tiers should be considered

3.6.4.3 Suggested Request tiers

- Free: Less than 5000 requests per month
- Small: 5000-10000 requests/month
- Medium:10000-50000 requests/month
- Large: 50000-250000 requests/month
- Enterprise: Per negotiation

Other tiers should be considered

3.6.4.4 Considerations for income distribution

This licensing model is equivalent to what the competitors offer, with the exception that it is possible to use low volumes of the public data for no charge. This will make the service attractive for startups and non-commercial organisations that need the data but do not require large volumes.

Another issue is that the data should not be licensed per country. All data should be available through the same interface. This is to increase usability and to avoid a confusing and costly scheme where users are billed differently per country of use. The marketplace should instead keep track of the data usage for each subscription and divide the profit according to actual use.

For instance, Company Alpha has an enterprise data license, with a maximum number of requests set to 250k requests per month. 75 % of the made requests are for SpazioDati's data, while the remaining 25 % is for OpenCorporates. The system should automatically calculate the revenue for the partner companies based on the usage share.

This is not necessarily complicated: several other services, such as for instance Spotify, perform similar calculations.

3.6.5 Ownership

The marketplace could be set up in many possible ways. It could either be a joint stock company owned by the consortium partners, allowing them full control of the revenue, or by a single entity either within or outside the consortium that will own and govern the marketplace, paying license fees to the consortium partners for the use of their data.

3.6.6 Service level agreements

Business customers would most likely require some sort of service level agreements in connection to their subscription. Such an agreement would detail both the required degree of uptime of the service, procedures regarding downtime, warning procedures, as well as requirements regarding the data quality. Each data provider should make a statement regarding their commitment and procedures on updates, error handling, data quality, etc.

3.6.7 Administration and governance

This section discusses some of the issues that need to be addressed in the establishment of a data marketplace governed by the consortium.

3.6.7.1 Membership

Membership concerns should be part of the statutes.

3.6.7.1.1 Rules for admitting new members

Questions such as which organisations should be eligible for future partnership need to be addressed.

3.6.7.1.2 Rules when a member desires to withdraw

The procedure for leaving the consortium should be established. It should contain points such as criteria for withdrawing, transition period and cost-sharing.

3.6.7.1.3 Exclusion rules

When and how a member can be excluded from the consortium or organisation, and the rights that the organisation retains. This should only be applicable in certain cases where a partner fails to meet its obligations.

3.6.7.1.4 Minimum level of participation

A minimum level of participation should be agreed upon. This includes items like the level of data sharing if applicable, the responsibility for costs and deficits and participations in the organisations.

3.6.7.1.5 Decision making process

In the following steps we will analyse questions related to:

- How decisions will be reached.
- Which issues will need consensus and which issues will need a simple or absolute majority.

3.6.7.2 Budgets

The rules for budgeting and reporting must be well defined and established.

3.6.7.2.1 Operations

An operating budget should be decided upon.

3.6.7.2.2 Marketing

A budget for marketing, if necessary, should be set aside.

3.6.7.2.3 Infrastructure and investments

Depending on the operating model, a budget for infrastructure and other investments might be necessary.