D4.1 Use cases and demonstrators definition

WP4 - Use cases and demonstrators - T4.1. Use cases and Requirements

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TABLE OF CONTENTS

1. INTRODUCTION

This document describes the use cases defined within the framework of the SoMeDi project. The project consortium has identified two use cases of interest, which will be described in this document. For each use case the document provides detailed information about: a description of the use case and how it is relevant to the SoMeDi project, its objectives and its requirements. For each use case we provide information about the scenario, the leading partner and the partners that are involved in the use case, the targeted stakeholders, the input data sources that the use case requires, the resulting output of the use case, the expected impact, together with the list of KPIs used to measure it and a description of the enabling technologies for each use case. Finally we provide a set of functional and non-functional requirements that are required by the use cases.

The deliverable is structured as follows:

Section 1 – Use case Descriptions and Motivation: provides a general description and motivation for the two use cases under analysis.

Section 2 – Use cases Objectives: presents the objectives for each of the use cases and the expected impact.

Section 3 – Functional and Non-functional Requirements: presents detailed information about the data sources, output and requirements for each use case.

Section 4 - Conclusions: concludes the deliverable by providing final considerations.

1. USE CASE DESCRIPTION AND MOTIVATION

The main objective of SoMeDi is to enable end users (companies) to improve their social business intelligence: giving tailored recommendation, development of new product or services from harvesting ideas, improving customers' retention for products, content and/or services. This objective will be reflected in the application use cases envisaged for SoMeDi.

For example, we had conducted a study at national level in the scope of the use case *Social media driven platform for recruiting purpose*. This study revealed the information that younger generations (undergraduates or students) are not well informed about the existing internship or apprenticeship programs. Also there are no national web resources where one can check the feedback given by participants to internship or apprenticeship programs. This helped us to identify the following needs:

- A system/platform that can give personalized recommendations, based on some common features of users' profile like education, interests, and location.
- A system/platform that can generate positive and negative opinions regarding companies that offer internship and/or apprenticeship programs.
- A system/platform that facilitate social presence for the companies that offer internship or apprenticeship programs.
- A system/platform that can enable company profiling.

All these needs will be addressed by SoMeDi Digital Interaction Intelligence (DII) tool.

SoMeDi proposes two thematic use cases, which all aim to illustrate different aspects of technological innovation, their use as well as novelties in terms of products and services. All the use cases exploit the technologies developed in the framework of the SoMeDi project as a DII toolkit.

In the following section the motivations for the two use cases are presented. These are the starting point from which the use cases will be detailed and the requirements defined.

1.1. Marketing Industry needs

Nowadays, marketing industry tends to create useless content following the idea of getting goods and services cheaply and easily. In 2008, Havas revealed on the Meaningful Brands survey that "60% of all content produced by brands is poor, irrelevant or fails to deliver"[1], which means that most brands focus on quantity instead of quality. Actually, online marketing has become stronger over the time based overall on the usage of social media with the objective of getting more website traffic, Twitter followers and Facebook 'likes'. This kind of marketing allows brands to focus on direct-response marketing on a cheaper way, but this behaviour has become a problem regarding to the expected impact. The report also found that most people would not care if 74% of brands disappeared, so creating quality marketing recommendations will be the main differentiating point of SoMeDi results.

Modern marketing industry is defined as customer-centric which means that the trend is to create personalized contents for each customer, by identifying patterns when he/she operates and purchases. The problem is that if advertisements and content are not relevant, the strategy morphs into personalized spamming, so the content fails to deliver. Contents by themselves are ineffective due to the absence of any marketing strategy and the fact that many actual marketers are inadequately skilled. By

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[1] http://www.bandt.com.au/marketing/meaningful-brands-2017-half-content-created-brands-irrelevant

the integration of SoMeDi platform to the customer's business, accurate data will be provided to assist in the elaboration of strategies and marketing plans aiming to optimize and generate effective contents.

Publicity articles usually counts with limited number of words. Same in radio and television advertising that is limited by time, so every single word and second must be relevant. This limitation is less restrictive in online marketing since websites and media networks can store high amounts of information, however the time a potential customer is willing to dedicate to reading, listening or watching advertisement material is also limited, so the ability to catch customer's interest is crucial. The existence of this limitation gives importance to the content, getting reduced in online marketing. In short, SoMeDi will measure brands' social impact providing truthful information that will improve customer's content quality and marketing plan performance by creating reports focused on client's needs and the likes.

The Digital Interaction Intelligence (DII) tool outputs will support customer's marketing plan by the definition of optimal target market that the customer should aim to, elaborating product's related recommendations and profiling users according to their interests; so simulations can be performed aiming to improve their marketing plan efficiency by the time. The above described problems happens mostly because of lack of efficient research due to the poor results achieved by conventional methods for collecting customer's opinion, like surveys taking place on annoying situations, the usual e-commerce mailing similar to spam or the intrusive online advertising including web announcements that prevent seeing the visited website. The social opinion database created by SoMeDi will provide an adequate source of information for reaching the desired impact.

1.2. Recruitment/Education industry needs

According to a survey conducted by ANOSR (The Romanian National Alliance of Student Organizations) in 2011[2] on a sample of 20,000 students from 24 universities, analysing the situation of student services in terms of student satisfaction regarding the CCC (Career Counselling Centres) efficiency, revealed the most unsatisfactory situation: in almost all universities, the percentage of students satisfied with their work was below 20%. This has led to distrust of these centres, and their effectiveness and thus to the non-use of the services they provide for students.

These programs are quite detailed and complex and could provide a very useful information base. So, when facing the reality, studies as the one aforementioned show that there is a strong need for better solutions to employ these programs.

Even if there is a European context that recommends them, and recently a legislative framework has been created that regulates their existence and functionality in all Romanian universities, CCC guidance services are still at an early stage in terms of efficiency in relation to the objectives they were created. Sadly, there are no studies and data on the impact they have had on reducing university dropout, increasing access to higher education, facilitating the transition from secondary to higher education or from education to the labour market, but we understand the reality by taking into account the number of graduates that work in their field of education.

Unfortunately, this context is due to the fact that in general, the budgets allocated to these centres are quite small, and there are many situations where they need to look for self-financing sources to support their work. Some of them are trying to fill these gaps with the voluntary work invested by academics and university students working in the centres, but it is obvious that without enough staff with occupation in

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[2] http://www.anosr.ro/wp-content/uploads/2014/04/Serviciile-de-consiliere-si-orientare-in-cariera-Perspectiva-studentilor.pdf

the field, the quality of the services offered and organized activities is rather poorly compared to the real needs of career counselling and guidance.

The effects of these issues that lead to a high risk of university dropout could be mitigated by functional CCC that deliver quality services, free of charge for students.

However, without a proper prioritization of their activity correlated with good strategies that actively engage universities, and without real investments by the state towards these centres budgets, these centres will remain entities that deal superficially with the problems for which they were set up and fail to produce real and impacting effects.

Industry needs for internship and/or apprenticeship programs in Romania and Europe have resulted in several initiatives, as below:

- Get in & GROW START Internship Romanian Program[3] is an educational partnership initiated by a broad group of business associations, embassies, multi-national companies and supported by the Government, universities and student associations. The main purpose of the program is to facilitate the preparation of young people as future employees.
- Go2intership[4] is the platform where you can find a starting point on the way to the job you want. Go2internship aims to help students and young people by providing them a wide range of internships that meet various working areas.
- Hipo.ro[5] gives users access to a rich collection of resources, content and online career tools including: jobs, career advice, career articles. Find a unique selection of jobs for professionals and internships for students from top employers.
- Internshipul.ro[6] Internship or Intership? This is the platform that allows students to apply to find different sort of opportunities regarding internships and also to read blog articles that are related to this subject and participate to events.
- Intership.gov.ro[7] Official Internship program of the Romanian Government will give young people the opportunity to familiarize with the working methods of the central government. Beyond the daily work in the central administration, trainees will have the opportunity to participate in discussions and roundtables in the presence of senior officials of the Romanian state, as well as trainings and thematic workshops.
- Practica-ta.ro [8] The creation of the first traineeships and internships platform facilitates dialogue in an honest, direct and professional manner between the three actors involved in job training programs: candidates, companies and universities. Students benefited from individual counselling in career, in terms of identifying strengths and career path, best fitting personality and working style of each one.
- Student in Romania[9] The initiative brings a new approach to the integration of undergraduate and graduate students in the labour market, including consideration of bringing to the forefront and addressing issues such as cultural integration, communication and relationship between people coming from different backgrounds.

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[3] http://www.startinternship.ro/despre
[4] https://go2internship.com/?gclid=CMXF28nP-NICFWgW0wodRvIBjg
[5] http://www.hipo.ro/Interships
[6] http://internshipul.ro/
[7] http://internship.gov.ro/
[8] http://www.practica-ta.ro/
[9] http://www.studentinromania.ro/stagii-de-practica/

- AIESEC [10] is the world's largest non-profit, independent and international student-run organization that brings together young people that are concerned about global internships, leadership development skills and volunteer exchange experiences with the same goal of making a positive impact on society.
- Programedeintership.ro [11] and inPractica.ro [12] are other platforms for internship and apprenticeship.
- Stagiipebune [13] project started by University Politehnica of Bucharest, Automation and Computer Science Faculty (UPB ACS) in 2005 for their students, has over 50 companies, 1000 jobs, over 16000 students participated from over 40 faculties.
- Some universities/faculties have their own matchmaking platforms for internship, for example the platform represented in Figure 1 by UPB ETTI (Electronics, Telecommunication and Information Technology Faculty)[14].

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[10] http://www.aiesecbucharest.ro/

[11] http://programedeinternship.ro/

[12] http://www.inpractica.ro/

[13] https://stagiipebune.ro/

[14] http://www.electronica.pub.ro/index.php/studenti/practica/descrierea-aplicatiei-pentru-practica :
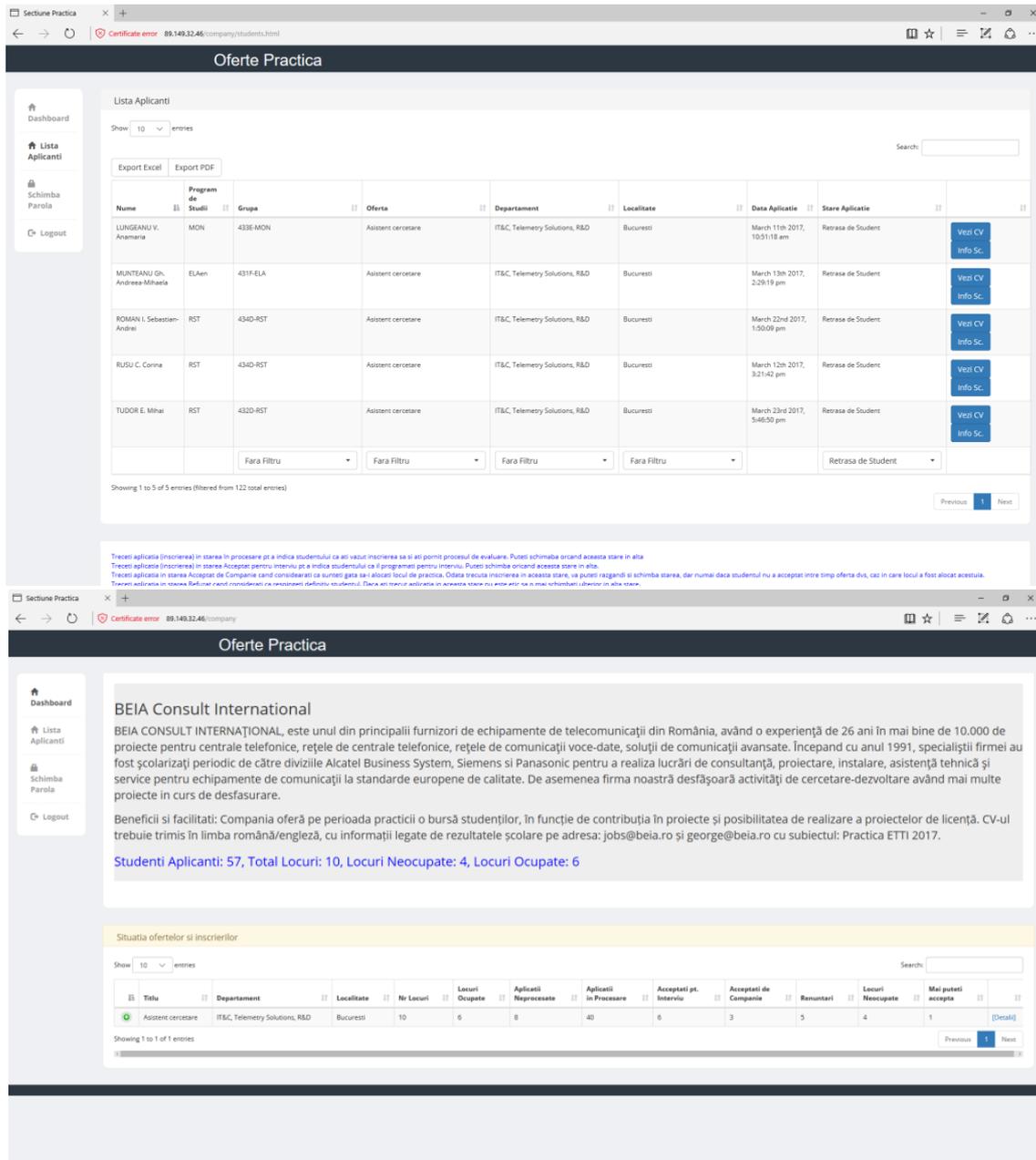
FIGURE 1 - MATCHMAKING PLATFORM FOR INTERNSHIP

Also, other universities/faculties advertise a web link with possible internship programs, for example ASE FABBV (Academy of Economic Sciences)[15]:

There are also several International internships initiatives led by non-profit organizations and private companies:

- GrowingLeaders[16] offers events, tools and comprehensive programs that promote healthy character and leadership development for the next generation of professionals. They also offer a variety of resources for the parents, teachers, coaches and mentors who shape their lives.

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[15] http://fabbv.ase.ro/practica
[16] https://growingleaders.com/

- Erasmus Student Network (ESN)[17] is a non-profit international student organisation. Their mission is to represent international students, thus provide opportunities for cultural understanding and self-development under the principle of Students Helping Students. ErasmusIntern.org provides an integrated market place that aims at bringing together traineeship providers and students seeking a training opportunity abroad.

- GoOverSeas[18] Is a company of travellers who have studied, worked, taught, lived and volunteered overseas, its offer is based on the assumption that people have more information online about the TV they would buy rather than when they choose an internship program abroad, this is why they come with information right from the source and don't just come up with an endless list of internship programs that may or may not work out for you. Their mission is to "empower more people to spend meaningful time overseas."

- International Internships[19] is a platform with customized internship placements, extraordinary customer service, and a great value. They provide an on-site orientation and on-site support for all of their programs and also they can arrange for students housing as well.

- GoAbroad[20] was first conceptualized for students with a desire to travel abroad and companies offering international programs. So their mission has transformed into something much greater than building a bridge between travellers and organizations: they've developed and evolved over the past two decades to meet the ever-changing needs of travellers, positioning themselves as the resource for meaningful travels around the world.

- Global Experiences[21] has been providing customized international internship programs to university students and graduates since 2001. They specialize in providing each intern with individualized attention to create fulfilling and career-enhancing international experiences in nine cities across the globe, including Barcelona, Florence, Milan, Dublin, London, Paris, New York, Washington, D.C., Stockholm, and Sydney.

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[17] https://esn.org/ErasmusIntern?gclid=CMCB06_S-NICFdQK0wodXyUNNg

[18] https://www.gooverseas.com/internships-abroad

[19] https://www.international-internships.com/

[20] https://www.goabroad.com/intern-abroad

[21] https://www.globalexperiences.com/

2. USE CASES OBJECTIVES

SoMeDi proposes two thematic use cases, which all aim to illustrate different aspects of technological innovation, their use as well as novelties in terms of products and/or services. Both use cases exploit various technologies explained above.

2.1. Social Media for Marketing purposes

The main objective of this use case is to improve the marketing performance of companies in two different sectors: e-commerce and restaurants with social media presence including promotions and marketing campaigns. By means of DII tool provided by SoMeDi, monitorisation on forums and social networks in order to check the impact of their marketing campaigns will be implemented to generate recommendations and automatized changes which can be used to increase sales volume and business impact.

2.1.1. E-COMMERCE

The main characteristic of these companies is that their business logic is defined in the virtual environment.

The worldwide expansion of the Internet has made e-commerce acquire great impact on worldwide economy. The physical stores have been forced to enter the online market for remaining competitive on their respective sectors, which makes e-commerce sector the ideal target market for improving their logic business according to their impact on the social networks and other online advertising channels. E-commerce business logic is based on their online sales, so they depend on their social reputation.

The objective is to integrate e-commerce system with the SoMeDi platform aiming to work together to increase the company sales and customer's opinion. The integrated system will support the customer's platform as well as to establish campaigns and promotions, providing social impact information the whole time.

Current e-commerce marketing solutions can be acquired as SaaS and they can be implemented into the e-commerce platform and provide an overview of the customer experience on the e-commerce website. The goal is to provide valuable data about the customer and to the customer. This is possible by monitoring several live triggers and analysing each trigger individually using advanced algorithms deployed into the e-commerce platform (Figure 2), thus making possible to feed relevant information to the customer by sending personalized messages adapted to the customer's needs.

These solutions [22] [23] [24] [25] can be enhanced through the DII tools integrated into the SoMeDi platform.

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[22] https://conversio.com/

[23] https://retargeting.biz

[24] https://umbrellamedia.ro

[25] http://www.brandfusion.ro/servicii

FIGURE 2: USE OF LIVE TRIGGERS – RETARGETING.BIZ SAAS

2.1.2. RESTAURANTS

The main characteristic of these companies is that they focus their marketing strategies in two main approaches: word of mouth and social media. More and more, customers at the time of choosing a restaurant rely on family and friends recommendations and online reviews[26] as reported in Figure 3, this analysis gives an idea of the importance of social presence on one hand and customer satisfaction on the other hand. Therefore restaurants' success rate highly depends on their social reputation, so they make use of social networks such as Facebook or Twitter to disseminate new promotions, special events, etc. and attract new clients so their sales could be also increased.

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[26] http://angelsmith.net/social-media-marketing/groundbreaking-survey-reveals-how-diners-choose-restaurants/
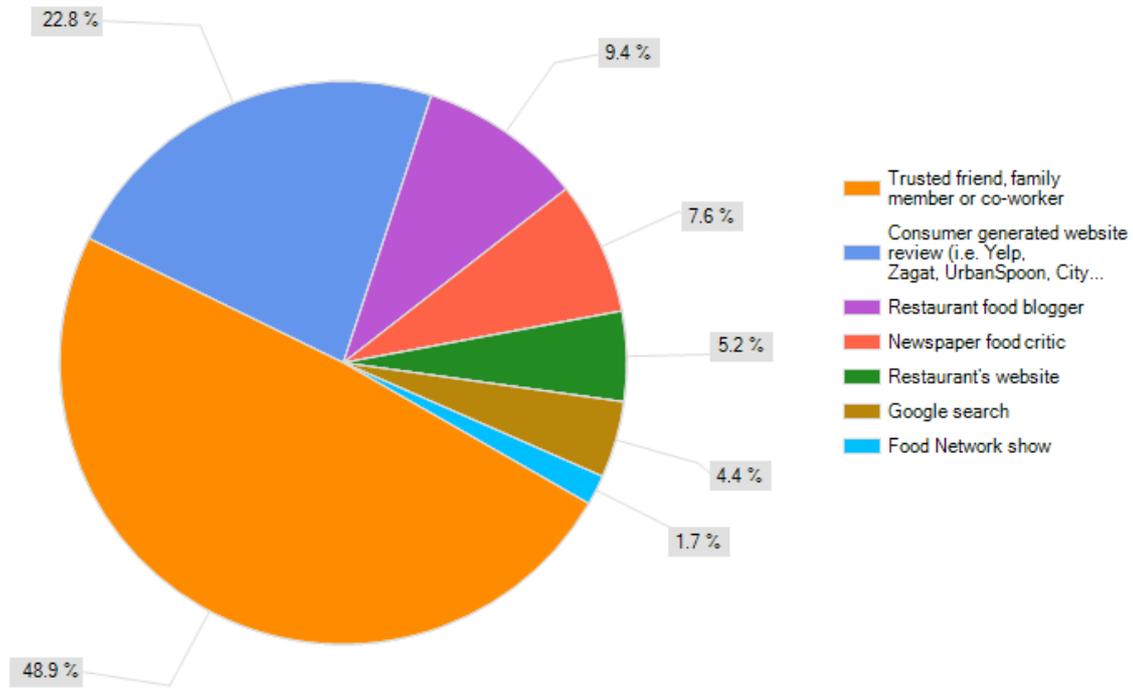
FIGURE 3 WHO INFLUENCES THE DECISION AT THE MOMENT OF CHOOSING A RESTAURANT?

In this study[27] is shown the impact of good marketing campaigns and how they can increase sales figures and customer satisfaction. With more than 20 million Facebook fans and a million follows on Twitter, fast food chain Subway has one of the largest social audiences on any restaurant in the world.

But more than this, Subway issues more retweets than any other restaurant brand, and responds to 54 percent of their incoming tweets in 15 minutes or less. This strong approach to customer support ranked Subway as the top restaurant brand in social media, finishing ahead of McDonald's and Taco Bell.

The data presented in Figure 4 was produced using Unmetrics[28] social benchmarking platform. Several online surveys about fast food and social media are available online, such as [29].

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[27] http://www.adweek.com/digital/top-social-fast-food/

[28] http://umetrics.com/

[29] https://www.surveymonkey.com/r/R9Y6NHV
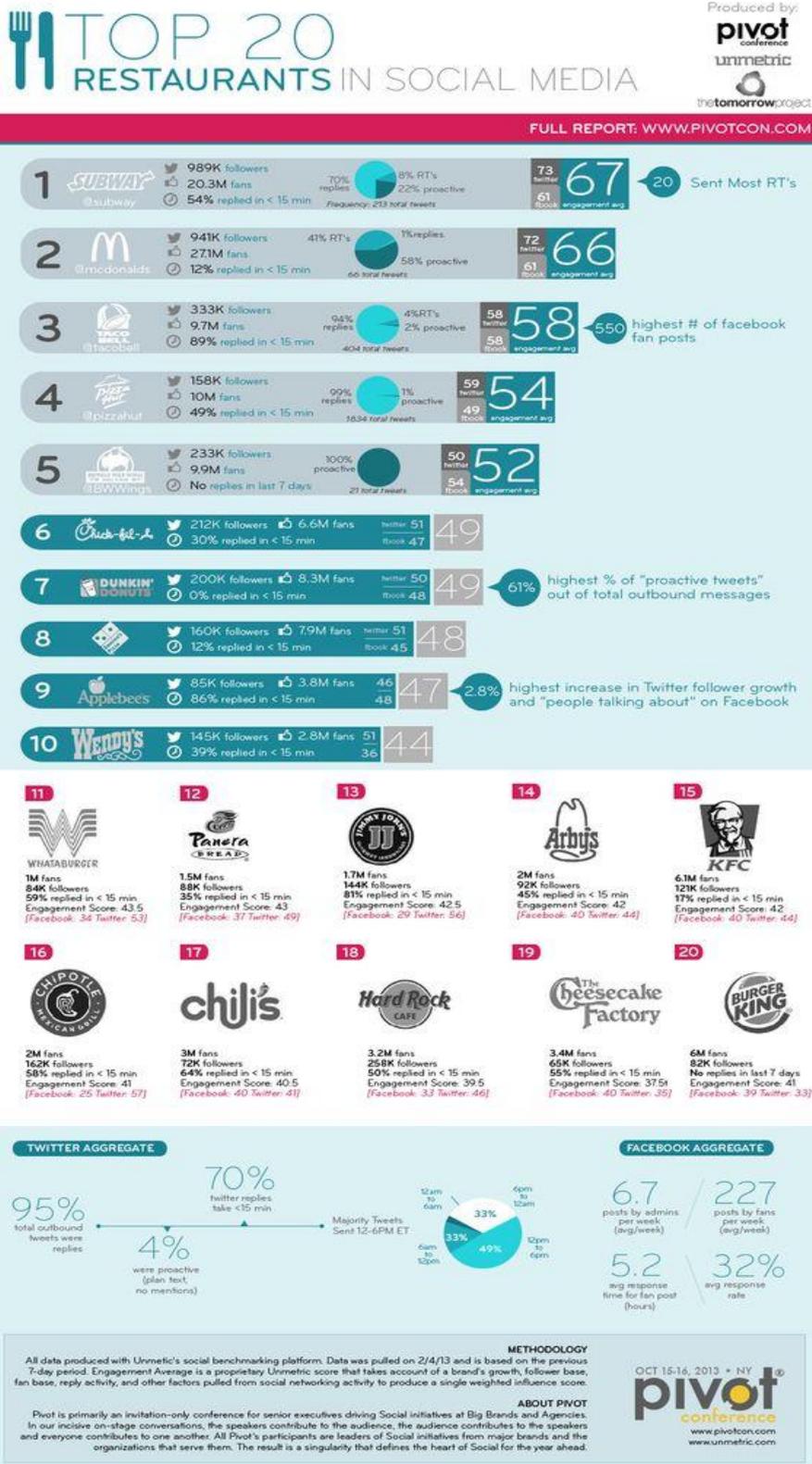
FIGURE 4: TOP 20 RESTAURANTS IN SOCIAL MEDIA

The objective is to integrate their social media strategy through the SoMeDi platform aiming to work together to increase the company incomes and customer's opinion. The integrated system will provide feedback on the campaigns and promotions impact, as well as impact of specific locals reputation (trendsetters), comments and opinions through opinion mining, etc. In summary SoMeDi tool will provide reports based on social impact information helping the business to modify their marketing

campaign to align it with clients needs, understand their brand impact and performance and in a whole help them to increase their impact and incomes.

This Use Case (both for the e-commerce and restaurant alternatives) will be based on four axes:

1) Competitor Analysis based on Social Media.
2) Brand monitoring (analyse the reputation of the brand).
3) Event detection with sentiment detection.
4) Marketing campaigns track and recommendations.

The final goal is to develop marketing strategies based on the insight collected and continuously analysing the impact of marketing campaigns, testing these strategies within the context of accelerating innovations.

The main KPIs identified to assess the impact of SoMeDi in this use case are:

- Online sales increase (e-commerce)
- Brand reputation increase
- Successful marketing campaign translated in increased volume of clients.
- Better knowledge about the clients' satisfaction and actions to be taken.
- Targeted social activity.

Partners involved in this use case are Experis, Hi-Iberia and Taiger.

2.2. Social media driven platform for recruiting purpose

The main objective of this use case is to find new ways to improve the employment rate of young adults using social media information. The focus will not be on recruiting process but on facilitating access of students to internship and to apprenticeship programs.

According to "Using social media in the recruitment process", a whitepaper by Robert Walters[30], has established the existence of distinct personal and professional social media sites, the whitepaper surveyed quizzed respondents, from UK, on where they would typically look to advertise or search for a new role (Figure 5).

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[30] https://www.robertwalters-usa.com/content/dam/robert-walters/country/united-kingdom/files/whitepapers/rw-social-media-whitepaper.pdf

- ■ 42.5% Register with a recruitment consultancy
- ■ 25.6% Using a job board (e.g. Monster, Total Jobs etc)
- ■ 12.3% Job adverts on professional social networking websites (e.g. LinkedIn)
- ■ 0.6%   Job adverts on personal social networking websites (e.g. Facebook, Twitter etc)
- ■ 10.9% Through existing professional networks
- ■ 8.1%   Directly through employer's website

FIGURE 5 - PREFERRED METHOD OF APPLYING FOR JOBS - CHART

Methods outside of the social media space are the preferred option for the majority of job seekers, with 43% turning to a recruitment consultancy to secure their next move and 26% first looking at online jobs boards. Just over 10% of job seekers turn first to existing, 'offline' contacts such as friends or colleagues, while 8% search for adverts posted to company websites.

On the other side (Figure 6), recruitment preferences among hiring managers are similarly conservative, with 49% citing a recruitment consultancy as their most favoured option. Only 13% prefer to use professional networking sites such as LinkedIn to advertise vacancies. Adding job advertisements to the company's website is preferred by 18% of employers, with 12% first turning to jobs boards and 11% to offline networks and word of mouth.

■ 49.3%   Engaging a recruitment consultancy
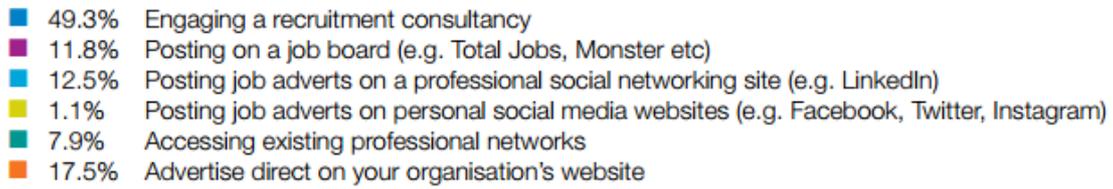■ 11.8%   Posting on a job board (e.g. Total Jobs, Monster etc)
■ 12.5%   Posting job adverts on a professional social networking site (e.g. LinkedIn)
■ 1.1%   Posting job adverts on personal social media websites (e.g. Facebook, Twitter, Instagram)
■ 7.9%   Accessing existing professional networks
■ 17.5%   Advertise direct on your organisation's website

FIGURE 6 - PREFERRED METHOD OF ADVERTISING A JOB OPENING

Using SoMeDi's DII tool, the platform will generate:

- Personalized recommendations: based on their education, interests, location etc. the users of the platform could receive personal recommendations in the form of events like meetups, conferences and workshops; key companies/organizations.
- Positive and negative opinions regarding companies that offer internship and/or apprenticeship programs.
- Social presence for the companies that offer internship.
- Internship position awareness in social media.
- Company profiling.

Also, considering the employers' appetite to verify the job candidate social media background, the SoMeDi DII tool will assist candidates in consolidating their social profiles to highlight their professional skills.

Main KPIs identified to assess the impact of SoMeDi in this use case are:

- Increase students' access to internship and apprenticeship programs.
- Increase employment rate (students that follow internship and apprenticeship programs have a real chance to get employed within the same companies that provided these programs).

For the involved companies, users of this platform, the use of SoMeDi's DII tool will bring additional help when evaluating candidates.

Main partners involved in this use case are SIVECO Romania and Beia.

3. FUNCTIONAL AND NON FUNCTIONAL REQUIREMENTS

In this section we will provide information about the requirements of the use cases. The section will focus on the identification of roles, source of information, the processing required and the expected outcome data.

Some of the functional and non-functional requirements of the two use cases are equivalents or they slightly differ between the two use cases. During the definition of the SOMEDI platform requirements these equivalences will be identified and will form the core requirements of the architecture (D1.3).

3.1. Requirements for Social Media for marketing purposes

The use case proposed consists on improving the brand performance (including promotions and marketing campaigns) on the market from a set of indicators that gives information about the brand social impact. The idea is to use the monitoring tools provided by SoMeDi project on forums and social

networks to generate recommendations and automatized changes, which can be used to increase sales volume.

3.1.1. AGENTS/STAKEHOLDERS

There are different stakeholders involved in this use case based on the different scenarios proposed:

- **e-commerce companies**: These stakeholders relies on online reputation in order to increase their business volume. Companies that have only online presence are required to obey to the laws of the reviews, recommendations and feedback from specialized websites and users which have high influence on the final customer. For example, the company could monitor reviews provided by this websites and user in order to monitor the reception of a particular product, for example companies such as "PC Componenes" and "Efecto 2000", which are companies selling computer components online in Spain, can predict the impact of a new product even before providing it to the customer by analysing the reviews of these influential profiles. Other companies, such as Wallapop, who facilitate proximity-based second hand trading among customers, can provide personalised offers to customers based on their social profile, by analysing customers preferences, hobbies and affections.

- **Restaurants:** These stakeholders are the potential end users of one of the scenarios of this use case. Social networks are the main tool used by the population to rate restaurants and promote them, so the objective is to use SoMeDi so the restaurants could have information about their impact in the population, for example for specific range of age which restaurant is the most suitable (in our case study Lateral, www.lateral.com, they have different restaurants in Spain, some of them more focused on after work, other on weekends, etc.), with this information they could also prepare more focused marketing and promotions campaigns, and also follow their impact in the social networks. For example 2 happy hours from Monday to Thursday has more impact in some locals than in others, it will increase the clients, or in this specific location is better a promotion on weekends, and so on.

3.1.2. CONSTRAINTS/PRECONDITIONS

The measure of social impact depends on customers' and clients' social activity, so if there is no much activity related to the brand on social networks, SoMeDi could be less useful for some potential customers. According to this constraint, the e-commerce use case will focus on customers with a social activity that provides a minimum of valuable information to be analysed.

3.1.3. INPUTS: DATA SOURCES

Social impact measurement requires the continuous acquisition of information on Internet. The study of social networks and forums, where people can post their opinion about a brand or product, will be the main source of information. SoMeDi platform will provide a set of tools for data processing in order to generate valuable information that can be exploited for generating recommendations and automatized responses.

Main input sources will be defined by means of a **scenario** in the DII tool. A scenario will be used in order to define a monitoring campaign and it will be composed of:
- **Input sources definition**: This part will be used to define all the information required to connect and obtain the source data. Depending on the nature of the source of the information, different methods will be defined: in some cases such as Twitter, a set of REST API is provided in order to obtain the information, while in some other cases such as online reviews websites and forums,

an approach using a web crawler such as Nutch[31] will be required. We can identify two main groups of sources of information for this use case:

- o Online Social Networks such as Instagram, Tweeter or Facebook.
- o Specific blogs, web pages associated to the brand, business sector or campaign under analysis such as Engadget[32].

- **Target Goals definition**: Scenarios could be personalized by defining, for example, specific target goals like analyse specific products/brand ("I'd like to know the impact of the promotion including the Spanish omelette"); or search for other companies with similar profiles and compare its influence/presence in the social media channels (brand competitors analysis).

Due to the high variability of social networks the data will be provided to the system in a continuous fashion, therefore suitable continuous data acquisition methods and stream-processing techniques shall be provided as part of the SoMeDi toolbox.

3.1.4. OUTPUTS: EXPECTED RESULTS

The overall expected result of using SoMeDi in this use case is the improvement on the brand social opinion. To increase products and services social impact will be the main objective to be accomplished with the integration of the SoMeDi platform, so the expectation is that SoMeDi acts like a kind of a marketing tool for the customer's brand.

Two main output formats are envisaged for the DII tool: reports and direct visualization in the dashboard through scenarios comparison and performance parameters. Therefore SoMeDi for this use case will provide a for every scenario and on global level (overall brand social reputation), a graphical interface that will present indicators and reports regarding:

- **Analysis of positive and negative opinions**: to identify possible reputation damage or confirm a successful promotion. How the sentiments change on time for a specific promotion?
- **Finding hot/trending topics**: Which topics or themes are the main focuses of discussions? What are authors on the social Web talking about in terms of a brand or its product attributes? How do the topics of conversation differ from what the client would like authors to talk about?
- **User Profiling**: demographic (age, gender, location, etc.) study based on tweets and community relationships of the users.
- **Influential users**: Identify potential influencers to promote some products or services.
- **Social media competitive analysis**: analysis of the publicly available social media data of a business and its competitors to gain perspective on their performance, identify weaknesses, find new opportunities and adjust their social media strategy.
- **Predictions** and support **automatic decision-making** processes based on the analysis performed. Recommendations based on analysis "Spanish omelette is highly in demand on Fridays-> a promotion could be added to attract more clients"

The general objective is to obtain the social impact of brands, products or campaigns; and if possible recommendations on how to improve their impact.

3.1.5. ENABLING TECHNOLOGIES

The adaptation/compatibility of SoMeDi platform to the technologies used by e-commerce platform will be one of the main constraints for the solution success. Different E-commerce platforms such as Gesio[33],

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[31] https://nutch.apache.org/
[32] https://www.engadget.com/uk/
[33] https://www.gesio.com/

Magento[34] or Prestashop[35], will be studied for the integration with SoMeDi project. A survey of these platforms and the possible integration with SoMeDi toolbox will be provided as part of the deliverables D1.1 and D3.1.

The idea is to implement a solution as flexible as possible; Experis IT has already experience on the usage of Gesio, so tests will be performed based on an actually functional e-commerce.

Other enabling technologies will be the ones directly included in the DII tool and already detailed in D1.1 such as machine learning, big data, artificial intelligence, and opinion mining and sentiment analysis.

3.1.6. FUNCTIONAL REQUIREMENTS

The functional requirements have been defined according the functional diagram in Figure 7. In the diagram in different colours are identified the component belonging to the DID, DII and specific to the use case.

The User Roles that are considered in the use case are reported in Table 1.

User	Name	Description
ANON	Anonymous User	User that has not logged in to the system.
AU	Authorized User	User that has logged in to the system. This user has permission to manage scenarios and dashboards.
ADMIN	Administrator	System administrator. This user has permissions to manage users and domain data.

TABLE 1: USER ROLES FOR THE MARKET USE CASE SCENARIO

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[34] https://magento.com/
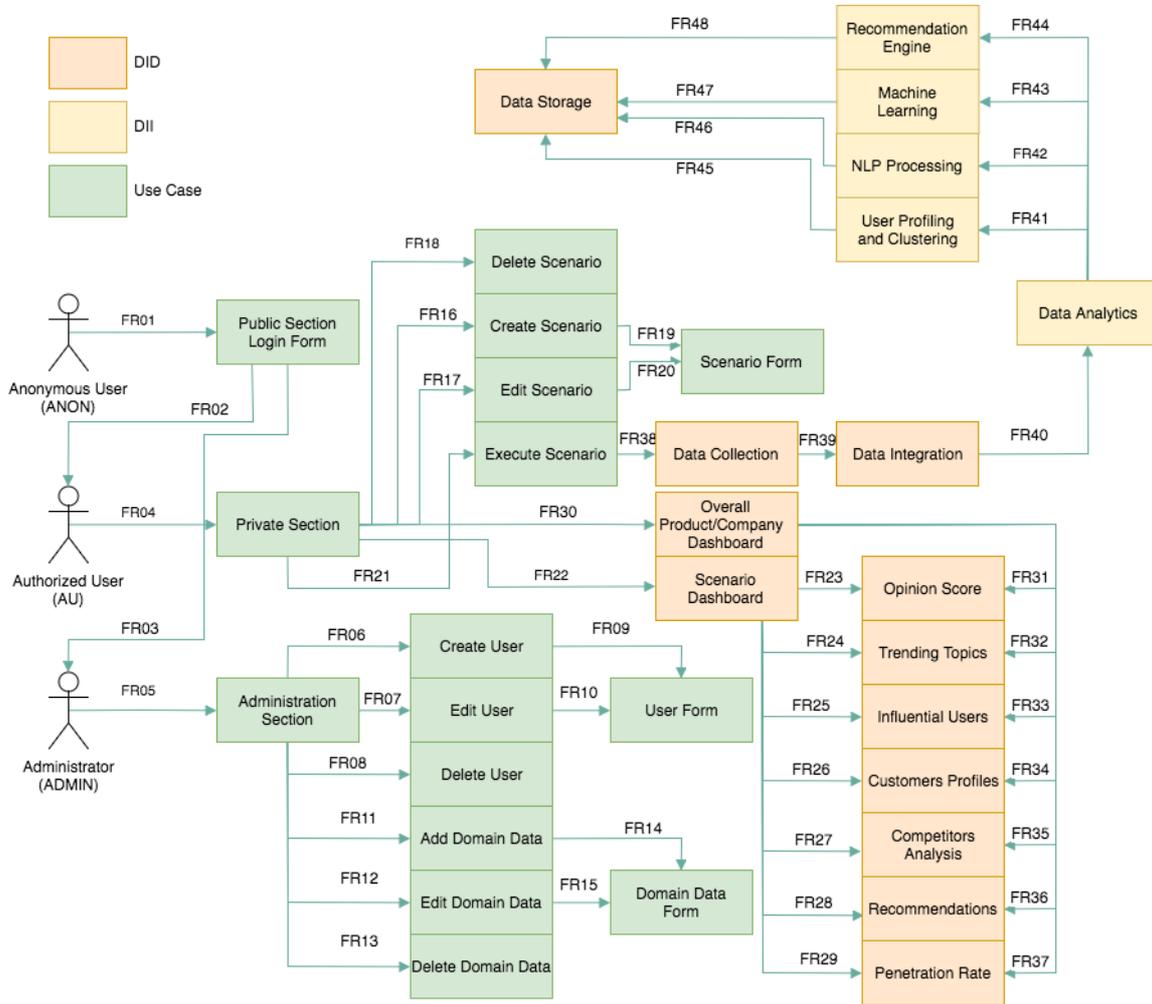[35] https://www.prestashop.com/es

FIGURE 7: FUNCTIONAL DIAGRAM OF THE MARKET USE CASE

Below we present a list of functional requirements for this use case identified from the use case description, objectives and KPIs:

Req.number	FR1
Role	ANON
Req. name	Public Section
Description	The platform will have a public section, available for public access with generic information and a log in and registration form.

Req.number	FR2
Role	ANON
Req. name	Login as Authorized User
Description	The public section of the platform will have a login form. Once Authenticated the user role changes to Authorized User role.

Req.number	FR3
Role	ANON
Req. name	Login as Administrator
Description	The public section of the platform will have a login form. Once Authenticated the user role changes to Administrator role.

Req.number	FR4
Role	AU
Req. name	Private Section
Description	The platform will have a private section, available only for users with Authorized User role. This section will show a list of Scenarios created by the user. For each scenario there will be the option to edit scenario details or delete it. A button in the page will allow creating a new Scenario.

Req.number	FR5
Role	ADMIN
Req. name	Administration Section
Description	The platform will have an administration section, available only for users with Administration role. This section will show a list of Users and Domain Data created by the administrators. For each User there will be the option to edit User details or delete it. A button in the page will allow creating a new User. For each Domain Data there will be the option to edit Domain Data details or delete it. A button in the page will allow creating a new Domain Data object.

Req.number	FR6
Role	ADMIN, ANON
Req. name	Create User
Description	The Administrator page will have a create new user button. In case the user is not authenticated, then a registration button will appear allowing to fill up user data and register the user.

Req.number	FR7

Role	ADMIN
Req. name	Edit User
Description	The Administrator page will have an edit icon next a user.

Req.number	FR8
Role	ADMIN
Req. name	Delete User
Description	The Administrator page will have a delete icon next a user. By pressing the Delete Icon a confirmation box with Delete and Cancel buttons will open.

Req.number	FR9
Role	ADMIN
Req. name	Create User Form
Description	The administrator by pressing Create new User button a form will open to collect user details. The form will have a save and cancel button.

Req.number	FR10
Role	ADMIN
Req. name	Edit User Form
Description	The administrator by pressing the Edit Icon next to a User a form will open with the selected user details. The form will have a save and cancel button.

Req.number	FR11
Role	ADMIN
Req. name	Create Domain Data
Description	The Administrator page will have a create new Domain Data button.

Req.number	FR12
Role	ADMIN
Req. name	Edit Domain Data

Description	The Administrator page will have an edit icon next a Domain Data object.

Req.number	FR13
Role	ADMIN
Req. name	Delete Domain Data
Description	The Administrator page will have a delete icon next a Domain Data object. By pressing the Delete Icon a confirmation box with Delete and Cancel buttons will open.

Req.number	FR14
Role	ADMIN
Req. name	Create Domain Data Form
Description	The administrator by pressing Create new Domain Data button a form will open to collect Domain Data details. The form will have a save and cancel button.

Req.number	FR15
Role	ADMIN
Req. name	Edit Domain Data Form
Description	The administrator by pressing the Edit Icon next to a Domain Data object a form will open with the selected Domain Data object details. The form will have a save and cancel button.

Req.number	FR16
Role	AU
Req. name	Create Scenario
Description	The Authorized User page will have a create new Scenario button.

Req.number	FR17
Role	AU
Req. name	Edit Scenario
Description	The Authorized User page will have an edit icon next a Scenario object.

Req.number	FR18
Role	AU
Req. name	Delete Scenario
Description	The Authorized User page will have a delete icon next a Scenario object. By pressing the Delete Icon a confirmation box with Delete and Cancel buttons will open.

Req.number	FR19
Role	AU
Req. name	Create Scenario Form
Description	The Authorized User by pressing Create new Scenario button a form will open to collect Scenario details. The form will have a save and cancel button.

Req.number	FR20
Role	AU
Req. name	Edit Scenario Form
Description	The Authorized User by pressing the Edit Icon next to a Scenario object a form will open with the selected Scenario object details. The form will have a save and cancel button.

Req.number	FR21
Role	AU
Req. name	Execute Scenario
Description	The Authorized User page will have an Execute icon next a Scenario object. By pressing this Icon the selected scenario is executed by the backend services. Once a Scenario terminates its execution, a Visualize icon will be activated in the Scenario list.

Req.number	FR22
Role	AU
Req. name	Scenario Dashboard
Description	The Authorized User page will have a Visualize icon next a Scenario object. By clicking on the Icon a Reporting Page with a collection of Dashboards will appear.

Req.number	FR23
Role	AU
Req. name	Opinion Score
Description	The Authorized User in the Scenario Reporting Page visualizes the Opinion Score Dashboard of the Scenario.

Req.number	FR24
Role	AU
Req. name	Trending Topics
Description	The Authorized User in the Scenario Reporting Page visualizes the Trending Topics Dashboard of the Scenario.

Req.number	FR25
Role	AU
Req. name	Influential Users
Description	The Authorized User in the Scenario Reporting Page visualizes the Influential Users Dashboard of the Scenario.

Req.number	FR26
Role	AU
Req. name	Customers Profiles
Description	The Authorized User in the Scenario Reporting Page visualizes the Customers Profiles Dashboard of the Scenario.

Req.number	FR27
Role	AU
Req. name	Competitors analysis
Description	The Authorized User in the Scenario Reporting Page visualizes the Competitor Analysis Dashboard of the Scenario.

Req.number	FR28

Role	AU
Req. name	Recommendations
Description	The Authorized User in the Scenario Reporting Page visualizes the Recommendations Dashboard of the Scenario.

Req.number	FR29
Role	AU
Req. name	Penetration Rate
Description	The Authorized User in the Scenario Reporting Page visualizes the Penetration Rate Dashboard of the Scenario.

Req.number	FR30
Role	AU
Req. name	Overall Product/Company Dashboard
Description	The Authorized User page will have a Visualize Overall Product/Company icon next to a Scenario object. By clicking on the Icon a Reporting Page with a collection of Dashboards will appear.

Req.number	FR31
Role	AU
Req. name	Opinion Score
Description	The Authorized User in the Overall Product/Company Reporting Page visualizes the Opinion Score Dashboard of the Scenarios belonging to the Same Product/Company group.

Req.number	FR32
Role	AU
Req. name	Trending Topics
Description	The Authorized User in the Overall Product/Company Reporting Page visualizes the Trending Topics Dashboard of the Scenarios belonging to the Same Product/Company group.

Req.number	FR33
Role	AU
Req. name	Influential Users
Description	The Authorized User in the Overall Product/Company Reporting Page visualizes the Influential Users Dashboard of the Scenarios belonging to the Same Product/Company group.

Req.number	FR34
Role	AU
Req. name	Customers Profiles
Description	The Authorized User in the Overall Product/Company Reporting Page visualizes the Customers Profiles Dashboard of the Scenarios belonging to the Same Product/Company group.

Req.number	FR35
Role	AU
Req. name	Competitors analysis
Description	The Authorized User in the Overall Product/Company Reporting Page visualizes the Competitor Analysis Dashboard of the Scenarios belonging to the Same Product/Company group.

Req.number	FR36
Role	AU
Req. name	Recommendations
Description	The Authorized User in the Overall Product/Company Reporting Page visualizes the Recommendations Dashboard of the Scenarios belonging to the Same Product/Company group.

Req.number	FR37
Role	AU
Req. name	Penetration Rate

Description	The Authorized User in the Overall Product/Company Reporting Page visualizes the Penetration Rate Dashboard of the Scenarios belonging to the Same Product/Company group.

Req.number	FR38
Role	AU
Req. name	Data Collection
Description	A scenario selected for execution provides information about the data sources required. The data collection access the data sources and retrieves them in the backend service.

Req.number	FR39
Role	AU
Req. name	Data Integration
Description	The data collected for a scenario execution is integrated in order to identify related elements and provide an enriched data set. An important aspect is to merge different profiles from different social networks and websites belonging to the same user. Another important aspect to take into account is the integration of data from Social Networks with internal data from the company (e.g. amount of sales of a certain product in a specific location and time).

Req.number	FR40
Role	AU
Req. name	Data Analytics
Description	The enriched data set related to a scenario is processed to extract additional data.

Req.number	FR41
Role	AU
Req. name	User Profiling and Clustering
Description	The DII toolkit will have a service to perform User profiling and Clustering on the enriched data set. The service will allow profiling the users of the monitored social networks, by creating a network of influencers and areas of interests for each defined scenario.

Req.number	FR42
Role	AU
Req. name	NLP Processing
Description	The DII toolkit will have a service to perform Natural Language Processing (entity annotation) on the enriched data set. The service will provide methods for analysis of the textual content of the data ingested in the platform. The methods will perform traditional tasks such as entity annotation, summarisation, sentiment analysis and opinion mining.

Req.number	FR43
Role	AU
Req. name	Machine Learning
Description	The DII toolkit will have a service to execute Machine Learning tasks on the enriched data set.

Req.number	FR44
Role	AU
Req. name	Recommendation Engine
Description	The DII toolkit will have a Recommendation Engine to create Recommendations based on the enriched data set. The service will provide recommendation about competitors products, influential users, demand of a certain product on specific time, …

Req.number	FR45
Role	AU
Req. name	User Profiles and Clustering Data Storage
Description	The DID toolkit will provide services for store, update, delete and retrieve the results of the User Profiles and Clustering task.

Req.number	FR45
Role	AU
Req. name	NLP Processing Data Storage
Description	The DID toolkit will provide services for store, update, delete and retrieve the results of the NLP Processing task.

Req.number	FR46
Role	AU
Req. name	Machine Learning Data Storage
Description	The DID toolkit will provide services for store, update, delete and retrieve the results of the Machine Learning task.

Req.number	FR47
Role	AU
Req. name	Recommendation Engine Data Storage
Description	The DID toolkit will provide services for store, update, delete and retrieve the results of the Recommendation Engine task.

3.1.7. NON-FUNCTIONAL REQUIREMENTS

Below we present a list of non-functional requirements for this use case identified from the use case description, objectives and KPIs:

Req.number	NFR1
Req. name	Data security
Description	Data must be stored securely in the database.

Req.number	NFR2
Req. name	Data anonymization
Description	Data must be anonymized prior to be used.

Req.number	NFR3
Req. name	Availability
Description	The platform is expected to be available all the time a user requests an access. Fail safety measures shall be taken into account in the definition of the architecture.

Req.number	NFR4
Req. name	Performance

Description	Measuring of relevant metrics with the purpose of evaluating SoMeDi toolbox and platform resources' efficiency.

Req.number	NFR5
Req. name	Scalability
Description	Capacity to support increased data volume in a uniform way without performance or availability loss.

Req.number	NFR6
Req. name	Traceability
Description	Data are not modified or lost on its path from origin to destination for both storage and data transfer service.

Req.number	NFR7
Req. name	Interoperability
Description	Ability of SoMeDi platform to interact with other system such as Gesio, Magento and Prestashop.

Req.number	NFR8
Req. name	Portability
Description	Capability of SoMeDi platform to run on numerous platforms (different browsers, different operation systems, different devices)

Req.number	NFR9
Req. name	Extensibility
Description	Ability of DII tool to allow and accept significant extension of its capabilities

3.2. Use Case Social media driven platform for recruiting purpose

The use case proposed by Romanian partners consists on a different approach on improving the process of integration of young adults into labour market. Tools developed within SoMeDi project will be used for mining data from professional networks, social media platforms to provide personalized recommendation, evaluation of internship and/or apprenticeship programs offered by companies.

3.2.1. AGENTS/STAKEHOLDERS

- Students/Applicants
- Companies

3.2.2. CONSTRAINTS/PRECONDITIONS

Success of the use case depends on companies' presence on social media platforms and on other online sources. A precondition for giving personal recommendation is that companies should publish online their internship and apprenticeship offers so that DII tools can find them.

3.2.3. INPUTS: DATA SOURCES

The platform will use data collected from social media sources, questionnaires, and data uploaded into the platform.

Due to the high variability of social networks the data will be provided to the system in a continuous fashion, therefore suitable continuous data acquisition methods and stream-processing techniques shall be provided as part of the SoMeDi toolbox.

3.2.4. OUTPUTS: EXPECTED RESULTS

Using SoMeDi's DII tool, the platform will generate the following output as a set of dashboards and reports through a user interface:

- Personalized recommendations: based on their education, interests, location etc. the users of the platform could receive personal recommendations in the form of events like meet-ups, conferences and workshops; key companies/organizations.
- Positive and negative opinions regarding companies that offer internship and/or apprenticeship programs.
- Social presence of the companies that offer internship.
- Internship position awareness in social media.
- Company profiling.
- Additional evaluation of candidates based on their social media profiles.

3.2.5. ENABLING TECHNOLOGIES

Social media driven platform for recruiting purpose will be developed from scratch in a compatible way with SoMeDi platform, that means it will be fully interoperable with DID toolkit and with DII tools.

Technologies such as Natural Language Processing, Machine Learning and Big Data will underpin the platform.

The User Roles identified for Social media driven platform for recruiting purpose are reported in Table 2:

User	Name	Description
ANON	Anonymous User	Anyone who accesses the platform and does not perform a login to connect to the private section. Users with this role have access only to the public section of the platform.
AUTH_A	Applicant	A registered user who successfully connected to the platform, using his/her credentials. Users having this role have access to the public section and to some parts of the private section of the platform. Functionalities specific to applicants are available for this role
AUTH_C	Company	A registered user who successfully connected to the platform, using his/her credentials. Users having this role

		have access to the public section and to some parts of the private section of the platform. Functionalities specific to companies are available for this role
ADMIN	Administrator	It's a particular type of authorized user. Users having Administrator role will have access to the administration section of the platform.

TABLE 2: USER ROLES FOR THE RECRUITING USE CASE SCENARIO

3.2.6. FUNCTIONAL REQUIREMENTS

The functional diagram of the recruiting use case is presented in Figure 8. We follow the same approach as for marketing use case: the diagram contains components specific to the use case together with components belonging to the DID and DII, in different colours. As expected, components of DID and DII are the same as those presented in marketing use case.
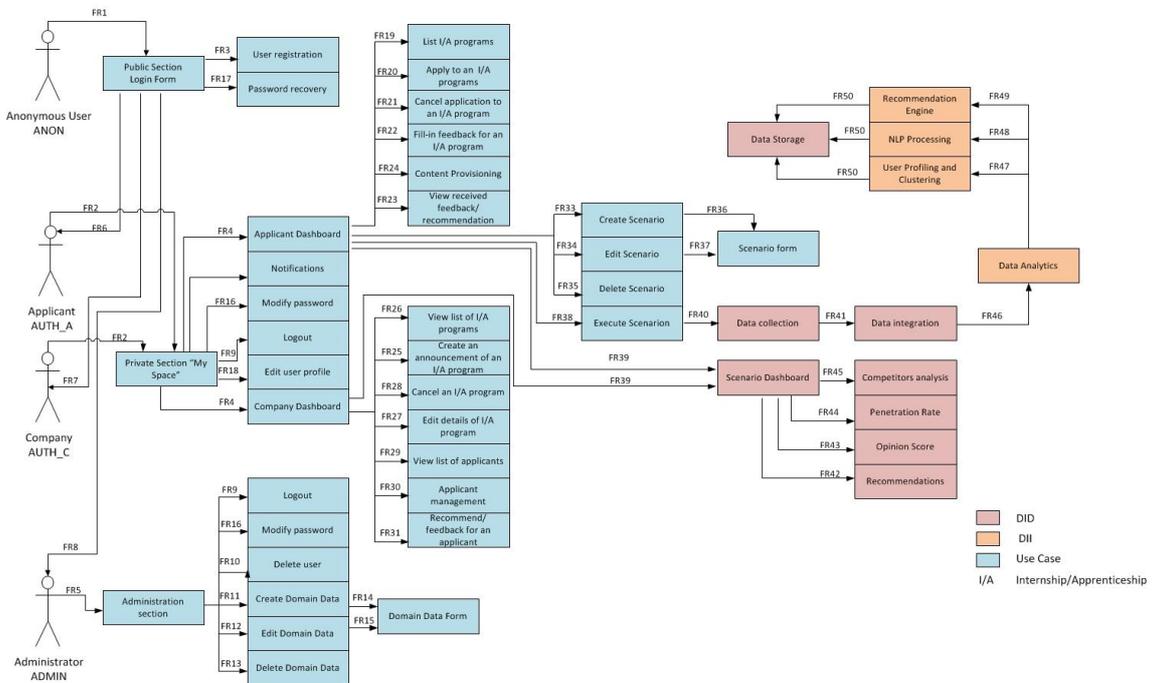

FIGURE 8 FUNCTIONAL DIAGRAM OF THE RECRUITING USE CASE

Below we present a list of functional requirements for this use case identified from the use case description, objectives and KPIs.

For a better understanding of the whole functionality, we include the DID and DII functional requirements applied for this specific use case.

Req.number	FR1
Role	ANON
Req. name	Public Section

Description	The platform will have a public section, available for public access.

Req.number	FR2
Role	AUTH_A, AUTH_C
Req. name	Private Section 'My Space'
Description	The platform will have a private section, available only to authorized users, that will allow differential access to information, according with users' role (role-base access). This section will show links/buttons to all the functionalities available to registered users: access to their dashboard, access to a list of available programs or list of applicants.

Req.number	FR3
Role	ANON
Req. name	User Registration
Description	The platform will allow registration of users with different roles (AUTH_A or AUTH_C). Each of the registered users has his own credentials (user name and password) to access the platform. User name must be unique.

Req.number	FR4
Role	AUTH_A, AUTH_C
Req. name	Dashboards
Description	The platform will generate personalized dashboards.

Req.number	FR5
Role	ADMIN
Req. name	Administration section
Description	The platform will have an administration section, available only to Administrators. This section will display a list of registered users and a list of Domain Data. For each Domain Data there will be the option to edit Domain Data details or delete it. A button in the page will allow creating a new Domain Data object

Req.number	FR6
Role	ANON

Req. name	Login as Applicant
Description	The public section of the platform will have a Login button; a Login form will open when clicking this button. Once authorized, the user's role will change to AUTH_A

Req.number	FR7
Role	ANON
Req. name	Login as Company
Description	The public section of the platform will have a Login button; a Login form will open when clicking this button. Once authorized, the user's role will change to AUTH_C

Req.number	FR8
Role	ANON
Req. name	Login as Administrator
Description	The public section of the platform will have a Login button; a Login form will open when clicking this button. Once authorized, the user's role will change to ADMIN

Req.number	FR9
Role	AUTH_A, AUTH_C, ADMIN
Req. name	Logout from the platform
Description	The private section of the platform will have a Logout button. When clicking this button the authorized user will disconnect from the platform; the system will close his session. Once disconnected, user role will change to ANON.

Req.number	FR10
Role	ADMIN
Req. name	Delete user
Description	The administration page will have a delete button next to a user. By clicking on this button a confirmation box having a Delete and a Cancel button will be displayed.

Req.number	FR11
Role	ADMIN

Req. name	Create Domain Data
Description	The Administrator page will have a create new Domain Data button.

Req.number	FR12
Role	ADMIN
Req. name	Edit Domain Data
Description	The Administrator page will have an edit icon next a Domain Data object.

Req.number	FR13
Role	ADMIN
Req. name	Delete Domain Data
Description	The Administrator page will have a delete icon next a Domain Data object. By pressing the Delete Icon a confirmation box with Delete and Cancel buttons will open.

Req.number	FR14
Role	ADMIN
Req. name	Create Domain Data Form
Description	The administrator by pressing Create new Domain Data button a form will open to collect Domain Data details. The form will have a save and cancel button.

Req.number	FR15
Role	ADMIN
Req. name	Edit Domain Data Form
Description	The administrator by pressing the Edit Icon next to a Domain Data object a form will open with the selected Domain Data object details. The form will have a save and cancel button.

Req.number	FR16
Role	AUTH_A, AUTH_C, ADMIN
Req. name	Modify password

Description	My space section of the platform will have a Change password button. When clicking this button the Change Password form will open. The form will have an Apply and a Cancel button.

Req.number	FR17
Role	ANON
Req. name	Password recovery
Description	The login form will have a button for recover the password. Users prior registered to the platform that forgot their password may click on Recovery password button. System will reset their password and provide a new one.

Req.number	FR18
Role	AUTH_A, AUTH_C
Req. name	Edit user profile (details)
Description	The authorized user by pressing the edit button next to his name will open a form containing user's details (his profile); the form will have a Save and a Cancel button

Req.number	FR19
Role	AUTH_A
Req. name	List internship/apprenticeship programs
Description	My space section will have a link to a form that displays a list of available internship/apprenticeship programs. The list will be pre-filtered according to user's profile (location, education, fields of interest); it will be possible to reset some of /all filters

Req.number	FR20
Role	AUTH_A
Req. name	Apply to an internship/apprenticeship programs
Description	For each active internship/apprenticeship programs there will be an option to Apply for it. When an applicant clicks on this button an Application form will open. Application form will have an Apply and a Cancel button and may display no more than 5 questions the application has to answer to when applying for the program. It is possible to apply only to programs that has not already started.

Req.number	FR21
Role	AUTH_A
Req. name	**Cancel application to an internship/apprenticeship programs**
Description	The applicant will have the possibility to cancel his application to an internship /apprenticeship program anytime before receiving a resolution from the company that released the program.

Req.number	FR22
Role	AUTH_A
Req. name	**Fill-in feedback for an internship/apprenticeship programs**
Description	The applicant will have the possibility to fill-in feedback regarding the internship /apprenticeship program he took part of.

Req.number	FR23
Role	AUTH_A
Req. name	**View feedback/recommendation received from a company**
Description	The applicant will have the possibility to view the feedback received from a company at the end of the internship /apprenticeship program he took part of.

Req.number	FR24
Role	AUTH_A
Req. name	**Content Provisioning**
Description	The platform will have a knowledge-base section, containing educational materials, studies, and professional advices.

Req.number	FR25
Role	AUTH_C
Req. name	**Create an announcement about a future internship /apprenticeship program**

Description	The company will have the possibility to click on a button Create announcement, available on My space section to create a new announcement about an internship /apprenticeship program that will start in the future.

Req.number	FR26
Role	AUTH_C
Req. name	View a list of their own internship /apprenticeship programs
Description	My space section will have a link to a form that displays a list of all internship/apprenticeship programs launched by the company.

Req.number	FR27
Role	AUTH_C
Req. name	Edit details of internship /apprenticeship program
Description	The company, by clicking on the Edit button next to an internship /apprenticeship program, will open the Edit program details form. The form will have a Save and a Cancel button.

Req.number	FR28
Role	AUTH_C
Req. name	Cancel an internship /apprenticeship program
Description	The list of internship /apprenticeship programs will have a Cancel button next to each future program. The company, by clicking on this button, can cancel the program.

Req.number	FR29
Role	AUTH_C
Req. name	View list of applicants
Description	The list of internship /apprenticeship programs will have a View applicants button. The list of applicant form, containing all persons that applied to the current program, will be opened by clicking on this button.

Req.number	FR30
Role	AUTH_C

Req. name	Applicants management
Description	The list of applicants page will have Status button next to each applicant. By clicking on this button the company can set the applicant status: Accepted, Rejected, Stand By, Program completed.

Req.number	FR31
Role	AUTH_C
Req. name	Fill-in feedback/recommendation for an applicant
Description	The list of applicants page will have Give recommendation button next to each applicant that has the status "Program completed". The company may click on this button; the form Edit Recommendation will open; the form will have a Save and a Cancel button.

Req.number	FR32
Role	AUTH_A, AUTH_C
Req. name	Notifications
Description	The platform will allow authorized users to apply for news subscription.

Req.number	FR33
Role	AUTH_A, AUTH_C
Req. name	Create Scenario
Description	My Space page will have a create new Scenario button.

Req.number	FR34
Role	AUTH_A, AUTH_C
Req. name	Edit Scenario
Description	My Space page will have an edit icon next a Scenario object.

Req.number	FR35
Role	AUTH_A, AUTH_C
Req. name	Delete Scenario

Description	My Space page will have a delete icon next a Scenario object. By pressing the Delete Icon a confirmation box with Delete and Cancel buttons will open.

Req.number	FR36
Role	AUTH_A, AUTH_C
Req. name	Create Scenario Form
Description	The Authorized User by pressing Create new Scenario button a form will open to collect Scenario details. The form will have Save and Cancel button.

Req.number	FR37
Role	AUTH_A, AUTH_C
Req. name	Edit Scenario Form
Description	The Authorized User by pressing the Edit Icon next to a Scenario object a form will open with the selected Scenario object details. The form will have Save and Cancel button.

Req.number	FR38
Role	AUTH_A, AUTH_C
Req. name	Execute Scenario
Description	The Authorized User page will have an Execute icon next a Scenario object. By pressing this Icon the selected scenario is executed by the backend services. Once a Scenario terminates its execution, a Visualize icon will be activated in the Scenario list.

Req.number	FR39
Role	AUTH_A, AUTH_C
Req. name	Scenario Dashboard
Description	The Authorized User page will have a Visualize icon next a Scenario object. By clicking on the Icon a Reporting Page with a collection of Dashboards will appear.

Req.number	FR40
Role	AUTH_A, AUTH_C
Req. name	Data Collection

Description	A scenario selected for execution provides information about the data sources required. The data collection access the data sources and retrieves them in the backend service.

Req.number	FR41
Role	**AUTH_A, AUTH_C**
Req. name	**Data Integration**
Description	The data collected for a scenario execution is integrated in order to identify related elements and provide an enriched data set. An important aspect is to merge different profiles from different social networks and websites belonging to the same user. Another important aspect to take into account is the integration of data from Social Networks with internal data.

Req.number	FR42
Role	**AUTH_A, AUTH_C**
Req. name	**Recommendations**
Description	The Authorized User in the Scenario Reporting Page visualizes the Recommendations Dashboard of the Scenario.

Req.number	FR43
Role	**AUTH_A, AUTH_C**
Req. name	**Opinion Score**
Description	The Authorized User in the Scenario Reporting Page visualizes the Opinion Score Dashboard of the Scenarios belonging to the same Product or Company.

Req.number	FR44
Role	**AUTH_A, AUTH_C**
Req. name	**Penetration Rate**
Description	The Authorized User in the Scenario Reporting Page visualizes the Penetration Rate Dashboard of the Scenario.

Req.number	FR45
Role	**AUTH_A, AUTH_C**

Req. name	Competitors analysis
Description	The Authorized User in the Scenario Reporting Page visualizes the Competitor Analysis Dashboard of the Scenarios belonging to the same Product or Service.

Req.number	FR46
Role	AUTH_A, AUTH_C
Req. name	Data Analytics
Description	The enriched data set related to a scenario is processed to extract additional data.

Req.number	FR47
Role	AUTH_A, AUTH_C
Req. name	User Profiling and Clustering
Description	The DII toolkit will have a service to perform User profiling and Clustering on the enriched data set. The service will allow profiling the users of the monitored social networks, by creating a network of influencers and areas of interests for each defined scenario (for example, it will generate professional micro networks used for promoting dedicated events)

Req.number	FR48
Role	AUTH_A, AUTH_C
Req. name	NLP Processing
Description	The DII toolkit will have a service to perform Natural Language Processing (entity annotation) on the enriched data set. The service will provide methods for analysis of the textual content of the data ingested in the platform. The methods will perform traditional tasks such as entity annotation, summarisation, sentiment analysis and opinion mining.

Req.number	FR49
Role	AUTH_A, AUTH_C
Req. name	Recommendation Engine
Description	The DII toolkit will have a Recommendation Engine to create Recommendations based on the enriched data set. The service will provide recommendation to authorized users about available workshops, meetups, based on their location, educational level, area of interest.

Req.number	FR50
Role	**AUTH_A, AUTH_C**
Req. name	**Data Storage**
Description	The DID toolkit will provide services for store, update, delete and retrieve the results of the Data Analytics tasks.

3.2.7. NON-FUNCTIONAL REQUIREMENTS

Below we present a list of non-functional requirements for this use case identified from the use case description, objectives and KPIs:

Req.number	NFR1
Req. name	**Data security**
Description	Data must be stored securely in the database.

Req.number	NFR2
Req. name	**Data anonymization**
Description	Data must be anonymized prior to be used.

Req.number	NFR3
Req. name	**Availability**
Description	The platform is expected to be available all the time a user requests an access. Fail safety measures shall be taken into account in the definition of the architecture.

Req.number	NFR4
Req. name	**Performance**
Description	Measuring of relevant metrics with the purpose of evaluating SoMeDi toolbox and platform resources' efficiency.

Req.number	NFR5
Req. name	**Scalability**
Description	Capacity to support increased data volume in a uniform way without performance or availability loss.

Req.number	NFR6
Req. name	Traceability
Description	Data are not modified or lost on its path from origin to destination for both storage and data transfer service.

Req.number	NFR7
Req. name	Interoperability
Description	Ability of SoMeDi platform to interact with other system.

Req.number	NFR8
Req. name	Portability
Description	Capability of SoMeDi platform to run on numerous platforms (different browsers, different operation systems, different devices)

4. CONCLUSIONS

In this deliverable we have presented the two main use cases that are intended to be pursued and implemented throughout the project SoMeDi. The use cases have been identified and described in the context of different environments, both for demonstrating the adaptability of the project to different cases, and for demonstrating that a well-defined platform can cover many different cases, without the need to carry out customized developments. Ideally, (apart from the graphic components, which must be defined for each specific case), each use case is defined only by a different configuration of the SoMeDi platform. As part of this deliverable we identified the motivating aspects of the use cases, the expected outcome by means of KPIs, the data sources identified as source of information valuable for the final user and a list of requirements that will provide the initial input for the final requirements of the SoMeDi toolbox.