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Report on the strategic role of OD for the MED growth

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Summary

The report identifies most interesting elements from the Pilot Actions throughout the 9 project areas, including best practices and experiments, as well as learnings from stakeholder feedback, in order to give strong evidence to advocate for strengthening the implementation of the digital agenda and entrepreneurship. It stresses the marketing approach and required funding opportunities that appear as the next step to secure for OD/LOD economy development.

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1. Abbreviations and Acronyms and Glossary

D.E. = Data Economy

ERDF = European Regional Development Fund

ESF = European Social Fund

OD: Open Data

LOD: Linked Open Data

OP = Operational Programme

PPs = Project Partners

PPP = Public Private Partnership

SMEs = Small and Medium Enterprises

2.   Introduction

This Methodology has been elaborated by TPLJ (PP3) and is addressed to the ODEON Project Partners (PPs) in order to give them general and specific indications about implementation of activity 4.2.1, named Report on the strategic role of OD for MED growth.

The main goal of this document needs to:

- give an answer if ODEON approach is in line with EU strategy and general approach by the view of evaluation;
- summarize a Methodology & Facts & Guidelines for implement policy for OD/LOD and its exploitation, beneficial for whole partnerships by the view of evaluation;
- summarize Guidelines to advocate for strengthening the implementation of the digital agenda and entrepreneurship;
- be an Overview of the marketing approach and required funding opportunities as a next step to secure for OD/LOD economy development.

3. Evaluation[1] of ODEON pilot activities

3.1 Pilot actions (3.4, 3.5, 3.6) carried out through Data Hubs

3.1.1 Guidelines proposed for pilot actions

3.4		Business development of OD/LOD for market objectives	
Del 3.4.1	**Assisting students, researchers and entrepreneurs for the development of new services and products**	The pilots will test the instruments able to support the business development of OD/LOD for marketing purposes. Each HUB will organize: • **1 matching event** for SMEs operating in DATA economy and digital innovation, • **1 hackaton** for students/start-uppers, • **1 pitching event** for investors, • **2 thematic workshops** to foster cross-fertilization activities	**M&E TOOLS FOR BUSINESS DEVELOPMENT OF OD/LOD PHASE:** For each event/activity: • ANNEX I: Questionnaire to assess the level of compliance with the methodologies established by ODEON project • ANNEX II: Satisfaction survey for meetings, workshops and training events
Del 3.4.2	**Development of new services and products**	• Each HUB will **select 6 promising cases**, will check the state of the art, identify possible actors to be involved to assure the industrial and marketing impact • According to the projects selected **6 local working group** will be organized by each HUBs to foster the cooperation and enlarge the number of actors.	
Del 3.4.3	**Opportunities and future developments connected with the Data Economy**	According to the sectors selected in 3.4.1, each HUB will organize **2 study visits** with relevant Data Economy players to promote mutual knowledge and cooperation with members of the Data & Digital Sectors	

[1] Evaluation based on
i) FINAL Evaluation report (3.8.3), contributed by SARGA, ODEON project internal documentation https://docs.google.com/document/d/1Utzt5_oRXc_7M5kuKcJoxT-msriBtERg/edit
ii) FINAL_HANDBOOK to support transferring activities (4.2.2), contributed by TPLJ, ODEON project internal documentation Renation https://drive.google.com/drive/folders/16jdsSt3STxPcOxXZRFXuq-Mukb3jWmAF
iii) FINAL_ ACTION plan for Data Med cluster (4.4.2), contributed by GFOSS, ODEON project internal documentation https://drive.google.com/drive/folders/1JWBFaUJb5AtLRqvZKU1fM74s0zJuy0Eq

3.5	Training activities to increase the knowledge concerning Digital Market opportunities		
Del 3.5.1	**Thematic Local technical seminars focusing on specific topics connected with Data Economy**	Each HUB in cooperation with the Experts will organize **2 Technical seminars** aiming at transferring knowledge and technology and bringing together the quadruple Helix players.	**M&E TOOLS FOR TRAINING PILOT ACTIVITIES PHASE:** • ANNEX I: Questionnaire to assess the level of compliance with the methodologies established by ODEON project • ANNEX II: Satisfaction survey for meetings, workshops and training events • ANNEX III: Satisfaction survey for coaching services
Del 3.5.2	**Local Capacity building seminars for intermediaries**	**Capacity building seminars** organized by the HUBs in cooperation with the Experts, for intermediary organizations and operators in charge to support the innovation eco-system.	
Del 3.5.3	**Local capacity building seminars for Policy Actors and innovation stakeholders**	Each HUB will organize **a training course** addressed to public actors to strengthen their knowledge on the Data Economy, the attitude to implement the egovernment policies, the knowledge on quality protocols to be adopted according to ODEON platform	
Del 3.5.4	**Coaching of HUBS members in Business skills**	**Major customized service** offered to the members of the HUBs, aiming at coaching them in basic business skills consisting of innovation management, HR, networking, finance, decision making, marketing, according to their needs and weaknesses.	

3.6	Support in Financial and Funding Opportunities		
Del 3.6.1	**Setting-up local networks of private investors interested to work with projects&ideas from the exploitation of OD/LOD**	Each HUB in cooperation with the Experts will organize **2 Technical seminars** aiming at transferring knowledge and technology and bringing together the quadruple Helix players.	**M&E TOOLS FOR SUPPORT IN FINANCIAL AND FUNDING OPPORTUNITIES PHASE:** For each technical seminar: • ANNEX I: Questionnaire to assess the level of compliance with the methodologies established by ODEON project • ANNEX II: Satisfaction survey for meetings, workshops and training events
Del 3.6.2	**Funding Opportunities for Data Economy**	Each HUB will organize **workshops** aiming at presenting the available sources of funding addressing Data Economy and Digital Agenda, offering the opportunity to the members of the HUBs to get in touch and create synergies to access funding.	
Del 3.6.3	**Setting up a Funding marketplace within the ODEON platform**	In cooperation with EEN and other EU actors, **public and private funding efforts** will be organized to create a marketplace and support the dissemination of information and knowledge both to the entrepreneurs/start-uppers and the financial actors.	

3.1.2 Success key factors & satisfaction of participants

3.4	**Success key factors**		The events/webinars covered all the topics specified in the methodology and they were implemented delivered by highly competent lecturers.
	Satisfaction of participants	3.4.1	MOST BENEFICIAL PARTS OT THE ACTIVITY: • The events fully met the expectations as participants stated that the quality of the organisation, presentations and lecturers' competences were high/excellent. • The average level of satisfaction among participants was high /4 points out of 5). • In general, participants were highly satisfied with the originality and interest of the lectures, transferability of the new knowledge acquired in their respective working environments, efficiency of the events. • Many of them said that one of the most interesting and inspiring facts from the events was the knowledge how seemingly worthless data could find an effective use. • Most of the participants said that the ideas/processes/ technologies etc. presented during the events could be introduced or implemented by themselves. • Other high valued aspects were the specialized comments by experts; the opportunity to initiate new conversations for potential cooperations; Discussion with interesting people of the field and new ideas for projects. SUGGESTIONS FOR FUTURE ACTIVITIES: • More OD sets are needed. • Suggestion to publish data as OD sets in the future. • Foster more networking opportunities
		3.4.2	MOST BENEFICIAL PARTS OT THE ACTIVITY: • The average level of satisfaction among participants was high /4 points out of 5). • According to the feedback obtained to the online questionnaires, participants found the webinars very useful, the lecturers highly competent, the possibility to transfer the newly acquired knowledge as generally applicable. • Some of them noted that they would try to use this knowledge and think about the development of new services. When activities were celebrated online, participants were satisfied that the lecture was recorded and that they had an opportunity to watch it as many times as they needed.
		3.4.3	MOST BENEFICIAL PARTS OT THE ACTIVITY: • The average level of satisfaction among participants was high /4 points out of 5). • In general, participants were highly satisfied with the organisation of the event and the quality of all presenters. • Some participants were especially satisfied that they had had an opportunity to learn of the experiences in the region and to see some practical examples, to have been given an opportunity for networking and to see some ideas on the use of open data to improve business operations.
3.5	**Success key factors**		In the cases where activities had to be implemented online and webinars were recorded and published at the institutional websites, the information and conclusions were able to be disseminated to the selected target groups what ensured that the lectures reached them. Thus. the lectures were also available for much wider public interested to watch them.
	Satisfaction of participants	3.5.1	**Technical seminars**: MOST BENEFICIAL PARTS OT THE ACTIVITY:

				• The participants were pleased by the seminars. • According to the responses obtained from the participants, the seminar fully met the expectations as almost all of them stated that the quality of the organisation, presentations and lecturers' competences were excellent. • In addition, they were highly satisfied with the originality and interest of the lectures, transferability of the new knowledge acquired in their respective working environments, efficiency of the event. • They said that the ideas/processes/technologies etc. presented during the event could be introduced or implemented. • They said that they recognised the importance of OD sets and their use and value. • In the cases where activities had to be implemented online and webinars were recorded and published at the institutional websites, the information and conclusions were able to be disseminated to the selected target groups what ensured that the lectures reached them. Thus, the lectures were also available for much wider public interested to watch them.
			3.5.2	**Capacity building seminars:** <u>MOST BENEFICIAL PARTS OT THE ACTIVITY:</u> • According to the responses obtained from the participants, the seminars met the expectations as almost all of them stated that the quality of the organisation, presentations and lecturers' competences were excellent. • In addition, they were highly satisfied with the originality and interest of the lectures, transferability of the new knowledge acquired in their respective working environments, efficiency of the event. • They said that the ideas/processes/technologies etc. presented during the event could be introduced or implemented. • Representation of participants of 4-helix stakeholders <u>SUGGESTIONS FOR FUTURE ACTIVITIES:</u> Some participants stated that they would need minor adjustments to be able to open their data in the machine readable format, while others stated that they would need more data sets open to implement some of their business ideas.
			3.5.3	**training courses:** <u>MOST BENEFICIAL PARTS OT THE ACTIVITY:</u> • It was an interesting introduction into open data with explanation of cases. • In general, the activity was considered very interesting and useful. • According to the responses obtained from the participants, this seems to have been one of the best evaluated activities as it was the most direct and tailor-made activity for each particular entity. • The participants were highly satisfied with all aspects of the events (meetings) – the organisation, the competencies of the participants of the meeting, the interaction, topics and their relevance and the potential for implementation of the ideas presented. • Some participants stated that it had become clear to them that some data which they found not so important could be of great importance for someone else and even that these benefits could be so big that they would even be immensurable. • In line with this, they pledged to open their data, which they did not think difficult to do. • International participation was also well considered and recognised as useful. <u>SUGGESTIONS FOR FUTURE ACTIVITIES:</u> • The webinar format could be maintained in the future as it is easier to organize • More emphasis may be placed on the data economy • More good practices at a national level. • Discussion of problems with access to open data. • Keep on going with this kind of activities <u>INTEREST TO KNOW MORE ABOUT:</u> • Live open data from gov • Data integration, like data on governmental level • Best practices • Personal data protection • More panels/conferences/initiatives on open data • Detailed real success stories • Explanation of open data reuse. • Application of open data. Open data for municipalities

		3.5.4	**Major customized service:** MOST BENEFICIAL PARTS OT THE ACTIVITY: • Better understanding of participants' business ideas. • improvement of the idea development capacity • marketing coaching • Personal development • market segmentation. • it was overviewed which elements are missing in order to establish a business team and a management method that will ensure the successful management of the company. • The main focus was on marketing and its main direction: determination of 4P (product, price, placement, promotion). • Participants thought that lectures were useful in all their aspects and they were highly satisfied with the transferability of the new knowledge acquired in their respective working environments. • According to the responses obtained from the participants of online activities, the videos fully met the expectations as almost all respondents stated that the quality of the organisation, presentations and lecturers' competences were excellent. • They thought that the duration of the videos was adequate and that more educational activities of this type would be needed. • Some of the participants particularly praised the approach in the video on marketing, which they considered modern. • The lectures were also available for much wider public interested to watch them. SUGGESTIONS FOR FUTURE ACTIVITIES: • More financial issues
3.6	**Success key factors**		A great contribution to the success of the 3.6.2. events was, of course, added by all the activities that we carried out in the Odeon project in the past period, from coaching to various thematic events and also with workshops.
	Satisfaction of participants	3.6.1	MOST BENEFICIAL PARTS OT THE ACTIVITY: • According to the responses obtained from the participants, the seminars met the expectations as the majority of the participants were highly satisfied with the quality of the organisation, presentations and lecturers' competences. • They were also very satisfied with the originality and interest of the lectures. • Their opinions with respect to the transferability of the new knowledge acquired in their respective working environments were divided but more than half thought positively of it. • They were satisfied with the efficiency of the event. They said that the ideas/processes/technologies etc. presented during the event could be introduced or implemented. • They thought the examples presented to them inspirational for their future work. • Some participants said that, as a result of the training, the concept of crowdfunding was clearer to them. • Guidelines and best practices about OD related to selected topic did contribute to participants perception about beneficial usage of Open data, especially to municipalities stakeholders. SUGGESTIONS FOR FUTURE ACTIVITIES: • To use more best practice examples. • More information about open data (what is this in practice) are needed. INTEREST TO KNOW MORE ABOUT: • Clean Tech. • It would be interesting to look at when open data goes into "closed" if it can and what the intellectual property of open data-based solutions is. • Tourism and culture heritage OD. • Integration into platform. Infrastructure and verification of API online data
		3.6.2	MOST BENEFICIAL PARTS OT THE ACTIVITY: • The participants were pleased by the seminars. • The deepening of the concept of API. • Portal upload examples. • The catalogue of projects carried out with open data. • Have new elements to think and debate about the usability of the data.

			- Opendata Portal. - Datasets. - Understanding what kind of information helps companies. - List of companies that produce open data and have profited from open data. - According to the responses by the participants, the activity met the expectations as the majority of the participants, who were highly satisfied with the quality of the organisation, presentations and lecturers' competences. - They were also satisfied with the originality and interest of the lectures. - Their opinions with respect to the transferability of the new knowledge acquired in their respective working environments were positive given the fact that they were presented a wide range of benefits and incentives for the development of innovative economy and startup companies. - In general, participants were satisfied with the efficiency of the events. - They said that the ideas/processes/technologies etc. presented during the event could definitely be implemented in their working environments. - Entrepreneurs were given the opportunity to join the Odeon project support system, and they were also included in the system of financing through the ecosystem of the start-up initiative (Public Calls for funding) of Slovenia, through which they also acquired the appropriate knowledge and coaching for the preparation of pitch for investors. SUGGESTIONS FOR FUTURE ACTIVITIES: - More in-depth study on some aspects INTEREST TO KNOW MORE ABOUT: - Some aspects of the data. - API. - Data provision process. - The establishment of a permanent intra-regional network on open data. - Automatic upload via API. - Generation of 3D models. - Open datasets. - List of companies that produce open data and have profited from open data. - Cases of real use of open data
		3.6.3	N/A

KEY SUCCESS FACTORS OVERVIEW:

KEY SUCCESS FACTORS	TASK/ ACTIVITY/DESCRIPTION									
	3.4			3.5				3.6		
	3.4.1	3.4.2	3.4.3	3.5.1	3.5.2	3.5.3	3.5.4	3.6.1	3.6.2	3.6.3
CONTINUOUS MONITORING	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
METHODOLOGY USEFUL AND EASY TO USE	✔	✔		✔	✔	✔	✔			
FIND THE SUITABLE PARTNERS	✔									
ONLINE TOOLS AND CHANNELS TO FACE COVID-RELATED LIMITATIONS	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
OPPORTUNITY TO NETWORKING	✔	✔	✔			✔				
ABILITY TO USE LEAN BUSINESS CANVAS AND THINK FROM BUSINESS MODEL PERSPECTIVE		✔								
INCORPORATION OF FINANCIAL THINKING AND MONETIZATION INTO THE BUSINESS MODELS		✔								
GOOD PLANNING			✔				✔	✔	✔	✔
EFFICIENT MANAGEMENT OF LOGISTICS AND ORGANIZATIONAL ASPECTS			✔			✔				
INVITING HUB MEMBERS IN ADVANCE			✔							
TRANSFERABILITY OF THE NEW KNOWLEDGE ACQUIRED IN THEIR RESPECTIVE WORKING ENVIRONMENTS					✔					
QUALITY AND EFFICIENCY OF THE ORGANIZATION, PRESENTATIONS, MATERIALS AND SPEAKERS AND COACHES' COMPETENCIES	✔		✔		✔		✔			
ON DEMAND TOPICS				✔	✔					
PUBLICITY AND POSSIBILITY OF DISSEMINATION THROUGH SOCIAL MEDIA AND DIGITAL CHANNELS				✔	✔	✔			✔	
STRONG NETWORK OF COLLABORATORS							✔			
BEING FLEXIBLE WITH THE METHODOLOGIES				✔						
CONTRIBUTIONS OF SOME STAKEHOLDERS									✔	

3.1.3 Problems and barriers

3.4	**Common problems /barriers face by all partners opportunities**	• In general, all the activities were not developed under the correct deadline. • All the partners faced some delays due to COVID -19 situation during the implementation of some of the activities. • Some activities had to be re-planned and adapted to online formats due to the COVID-19 pandemic and the related travel restrictions in all four countries, but the agendas proposed in the methodology and all other aspects pertaining to the methodology were fully respected
	Specific problems of some of the partners	• GFOSS had issues with the public procedures for the subcontractor, but they managed to catch up with the partners. GFOSS also faced the difficulty to engage stakeholders, since the sector of open Data in Greece is not much developed. Although they monitored continually their planning to gather the desired number of participants for the events.
3.5	**Common problems /barriers face by all partners opportunities**	• In general, all the activities were not developed under the correct deadline. • All the partners faced some delays due to COVID -19 situation during the implementation of some of the activities • Some activities had to be re-planned and adapted to online formats due to the COVID-19 crisis. Although some of the partners slightly departed from the proposed methodology, the main idea was retained in the purpose of the events they organized if not its format. • Some partners exposed that the methodology could have been more extended.
	Specific problems of some of the partners	• The GFOSS had issues with the public procedures for the subcontractor, but they managed to catch up with the partners. GFOSS also faced difficulties to engage stakeholders, since the sector of open Data in Greece is not much developed. Although they monitored continually their planning to gather the desired number of participants for the events. • TPLJ: The process of selecting mentors was time consuming due to the selection and acquisition of their references.
3.6	**Common problems /barriers face by all partners opportunities**	• In general, all the activities were not developed under the correct deadline. • All the partners faced some delays due to COVID -19 situation during the implementation of some of the activities.

		• Some activities had to be re-planned and adapted to online formats due to the COVID-19 crisis: some were online and others were converted in hybrid events where some of the participants were present physically while others attended via online platforms.
	Specific problems of some of the partners	• The GFOSS had issues with the public procedures for the subcontractor, but they managed to catch up with the partners. GFOSS also faced difficulties to engage stakeholders, since the sector of open Data in Greece is not much developed. Although they monitored continually their planning to gather the desired number of participants for the events.

MAIN PROBLEMS AND BARRIERS OVERVIEW:

MAIN PROBLEMS/BARRIERS	TASK/ ACTIVITY/DESCRIPTION									
	3.4			3.5				3.6		
	3.4.1	3.4.2	3.4.3	3.5.1	3.5.2	3.5.3	3.5.4	3.6.1	3.6.2	3.6.3
ISSUES WITH THE PUBLIC PROCEDURES FOR THE SUBCONTRACTOR	✖		✖	✖	✖	✖	✖			
DIFFICULTIES TO ENGAGE OR TO MAINTAIN THE INTEREST OF STAKEHOLDERS	✖	✖				✖				
THERE WAS NO FORMAL ESTABLISHED ODEON HUB YET	✖									
METHODOLOGIES DELIVERED WITH DELAY	✖	✖	✖	✖	✖	✖	✖		✖	✖
NEED TO ADAPT, RE-PLANNED OR POSTPONE DUE TO COVID - RELATED LIMITATIONS	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
PROBLEMS WITH TIME AND LOCATION			✖							
THE METHODOLOGY PROPOSED COULD HAVE BEEN MORE EXTENDED				✖	✖	✖		✖		
SOME METHODOLOGIES PROPOSED WERE NOT COMPLIANT WITH NEW WAYS OF SHARING				✖	✖	✖	✖	✖		
ADAPTING THE PLANNED ACTIVITY WITH THE METHODOLOGY							✖			
LONG DURATION OF THE ACTIVITY								✖		

3.2 Lesson learned

The participants of all events that took place as part of the Odeon project positively assessed the organization of events from both an organizational and content point of view. The competencies of the lecturers were especially emphasized. In addition, they highlighted the originality of the presented content as well as the possibility of transferring the acquired knowledge into their regular work. They also learned about the importance of open data and its usefulness. It has also been pointed out that some data, although seemingly useless to someone, have a lot of added value that is difficult to measure, so it is important to open as much data as possible or at least publish metadata descriptions so that users know that something exists and under what conditions it is available. In the activities where the coaching HUBS members took place, the participants also highlighted the entrepreneurial and personal growth they had during the training.

As part of the activities that took place in terms of support and financial opportunities, the participants pointed out, among other things, that the importance of investment is now clearer to them. This also opens up additional opportunities for them to obtain funds for the implementation of their projects.

Participants pointed out that they would like more events of this kind, where they would have the opportunity to network, exchange experiences and present examples of good practice. They also want seminars to address data opening issues.

The common finding of the participants who attended different events in the framework of the Odeon project is that open data has a social, environmental and / or economic value, especially in the green economy and creative industries, and that the number of organizations and companies providing or using open data is slowly increasing, but on the other hand there are still many different stakeholders who do not yet know the benefits of open data and also do not consider the possibilities of using it.

The events also opened up a number of questions and discussions, particularly on how businesses could be better informed about the concept of open data as well as its potential for business.

One of the key conclusions was that most SMEs are not well enough informed about the possibility of funding through the European Commission or. alternative options for VC. As a result, many entrepreneurs and SMEs that have developed ideas using open data face challenges in raising capital, which is also a major obstacle to promoting the development of new solutions and the creation of new start-ups in the field of open data.

3.2.1 Pilot activities – learn lessons

Hackathon

Hackathon participants agreed that they play an extremely important role in promoting and spreading the use of open data. They provided an important supportive environment for the development of ideas or their projects and the opportunity to receive financial and technical support.

The feedback they received from mentors also played an important role, especially in structuring the idea, developing business models, monetizing it, and acquiring new personal, managerial, and entrepreneurial skills that they can incorporate into their activities.

Many startups have also used hackathons to make new contacts with experienced mentors and, most importantly, to pitch their projects to various investors.

Online implementation of events

It was also interesting to note that hackathons conducted online had the same or even better participation than hackathons conducted on-site, but participants missed the collaborative brainstorming and teamwork associated with developing an individual idea.

Most importantly, participants in this case missed the networking with mentors and investors that they would receive when conducting on-site hackathons.

Thematic Seminars

The thematic seminars were successful in raising awareness of the importance of data while providing participants with a broader perspective on its use. They aimed to engage start-ups, SMEs, public representatives, academics, project promoters and policy makers, giving them the opportunity to share their views on data and prior knowledge.

The events allowed participants to network with other entrepreneurs in the sector, see other projects, learn about new ideas from competitors, find suppliers and possible new alliances and, most importantly, gain visibility and reach potential new customers.

Study visit

Participants in the study visits, both on-site and online, highlighted the importance of study visits for understanding the use of open data and, most importantly, for gaining new ideas and connections at the local, regional. as well as international level.

Through visits to various companies, participants learned how the companies came up with the idea of using open data, how it all started, evolved, and what the plans are for the future. The main topics of discussion were how the company organizes information and public open data, what packages it offers to customers, and what market segments it targets.

Attendees also spoke with company representatives about financial investments and possible changes to the business model.

Participants also had the opportunity to present their project ideas to the entrepreneurs or. representatives of the different organizations visited, who then received some recommendations regarding the use of open data that could relate to their project.

After the study visit, many participants remained in contact with the visited companies or organizations and new connections were made between the participants themselves, which also led to new connections and projects in the field of open data, which was also the main purpose of organizing study visits.

POSIBLE IMPROVEMENTS AND LEARNED LESSONS:

- **Online and hybrid events offer important opportunities** to adapt presential events into virtual ones + widen the number of attendees that can participate in the activities and allowing the subsequent use of online sessions that have been recorded and shared;
- In the future, **the project deadlines should be respected** in order to carry out the activities in the logical and corresponding chronological order. Otherwise, more efforts to find suitable partners to participate in the implementations of the activities have to be done;
- Delays in the elaboration of the methodology should be avoided in order to facilitate all the partners to implement the activities before the initial deadlines;
- Apart from using the project proposed methodology, some partners consulted **other documents/procedures on the organization of the events** which had previously been held by their organization, what helped to create synergies and optimize tasks. This is a good practice that can enrich and improve the proposed project methodology;

- Both the **methodology proposed for the activities as wel as the templates provided by the task leader were useful and easy to use** for the implementation of the activities, so they can be transferred and disseminated as good practices;
- To avoid future problems with subcontractors, **several options of service providers should be considered** from the beginning of the activity.

3.3 Identify synergies for the transfer of good practices and knowledge between project partners

The partners discussed possible synergies, transfer of good practices and knowledge during the all SC/TC project meetings, as well as very intensively in the preparation and implementation of international study visits with a focus on the organization of Open data study visits of 4 countries (Slovenia, Italy, Croatia and Montenegro).

The discussion on the challenges and inputs in the development of open data in the Mediterranean region was very interesting as it included data producers, data users, researchers and academics as well as project promoters.

The discussion showed that countries are at different stages of development, that some have a very long history in this area, while in others this concept is still quite new. However, it was clear from the case study examples that all countries have excellent potential for using open data. The good practice examples also showed how versatile the possibilities for using OD are and how many opportunities there are for collaboration. During the presentation of good practice examples, SMEs communicated with each other and expressed interest in each other, in sharing information and in collaborations.

Looking for synergies, a basic understanding of the different levels of the data lifecycle was presented, which could be updated to jointly consider how to improve data production/standardization/data flow and give them more opportunities to collaborate to better align data production with data needs.

The aim of creating synergies is to have a greater impact on the competitiveness, jobs and growth of the use of open data in the EU, as well as better access to structural and investment funds, and the joint creation of strategic tools at local, transnational and EU level.

Achieving such synergies requires a strategic approach with a medium to long-term perspective, starting with a stakeholder engagement phase to develop a common strategy for the use and promotion of open data, which would also introduce a smart specialization strategy in the long term.

The search for synergies between project partners is established in order to:

• increasing investment in research and innovation and its impact,

• bringing together different forms of innovation and competitiveness support,

• stimulate economic growth by encouraging companies to exploit open data,

• transfer of innovative ideas to the market,

• and shaping the value chain.

Synergies therefore have a greater impact on competitiveness, jobs and the growth of the use of open data in the Mediterranean and also in EU, as well as better access to the Structural and Investment Funds, as well as the co-creation of strategic instruments at local, transnational and EU level.

In order to achieve such synergies, the ODEON project provided the necessary strategic approach with a long-term perspective through its activities, starting in the phase of stakeholder cooperation to develop a common strategy, tools and guides, and action plans for the use and promotion of open data.

Successful synergies require preparation and efforts at all stages of programming and implementation and by all partners, including the selection of priorities, specific objectives, and a focus on the appropriate range of actions, including the promotion of other forms of innovation, and the social, entrepreneurial and environmental values of open data.

3.3.1 Development of project tools

The main purpose of the pilot activities related to open data adoption was to develop a set of tools to support the elevation of the environmental, social and business valve of open data. With a focus on overall changes in business models, processes, productivity, logistics and improved customer relationships in companies.

By producing an open data handbook and guides for individual pilot activities, the project partners enabled knowledge transfer between different stakeholders, creating synergies between them.

With a shared database of open data, it enables further opportunities for synergies and sharing of best practices between partners, as we saw in the case of supporting technology partners who joined both the organization and the Slovenian and Croatian Hackathon.

3.3.2 Organization of the common seminars

Participants and partners agreed on the success of the organized webinars, as they allowed the transfer of knowledge and good practices to a wider audience and many stakeholders (public actors, project managers, data scientists, private actors), and at the same time participation could be regional or even international, which is otherwise difficult to ensure given the geographical distribution.

This format was also very well received by the participants of the events - as evidenced by the many questions and exchanges between the webinars.

It is therefore interesting that European projects continue to develop this form of conference without neglecting the physical events where networking is the main focus.

3.3.3 OPENDATAHUBS.EU Platform

The Open data Hub platform, created in the framework of the ODEON project, promotes integrated support in the field of open data for Mediterranean users, in addition to all other services. The platform is designed as a "one-stop-shop" to increase participation in the open data innovation ecosystem, empower and support SMEs in acquiring open data knowledge and skills to increase their competitiveness, and support intermediary organizations for training and pilots and access to developed tools.

The platform aims to create a strong and strategic innovation environment to collect and optimize local and European initiatives for the use and reuse of data, increase their impact and efficiency and provide stakeholders (SMEs, intermediaries and policy makers) with a set of common tools and instruments available at local level.

The ODEON platform was created as a capitalisation of previous MED projects integrated with EU platforms dealing with Open Data and Linked Open Data.

The platform is also the entry point to a strong interregional stakeholder network for innovation that will have a set of tools and services to support policy makers, intermediaries and SMEs to make more open data available and more competitive and to increase the competitiveness of local OPEN DATA Hubs.

The collaboration between these platforms ensures a constant flow of data in the three thematic areas of the project, together with the national / regional e-government platforms.

The platform hosts open data freely available from the administration, training content for awareness and capacity building activities, and tools and instruments that can support SMEs, start-ups, etc. in their entrepreneurial initiatives to develop joint cooperation and innovation pathways.

The platform is a collaborative environment where SMEs, intermediaries and policy makers can work together and benefit from the services specifically developed in the project ODEON.

The **Opendatahub.eu platform** provides access to:

Dedicated COMMUNITIES, where stakeholders can participate and have access to events, training, tools and other interesting material in the field of open data use and reuse.

COOPERATION PROPOSAL, which is shared by innovation stakeholders according to their common area of interest.

EVENTS to raise awareness, skills and competencies, targeted to the type of stakeholder and area of interest.

DISCUSSIONS where users can share ideas, give their feedback and opinions.

Why join the OPENDATAHUB.eu platform?

SMEs: Through the platform you have access to various tools to discover the business and economic value of open data and develop new business models. In one place, the collected databases of open data are designed by 7 data hubs. On the platform, you can also discover many good practices from other Mediterranean companies. Do you also find access to mentors, partners and experts? And do you also discover possible funding sources?

MEDIATORS: By joining the OPENDATAHUB.eu platform, you will get a quick training to understand the issues of open data use and reuse, access to best practices from Mediterranean regions and access to some tools to support data management and promote its use. Will it be easier to send an important accelerator through the platform to help SMEs transform their business models with open data?

POLICY MAKERS: Want to best address the challenges of opening up open data in your policy and help your region leverage it? Join platform and you will be able to share and learn best practices, network with other policy makers and jointly create appropriate support tools to build cross-border collaboration in this area.

3.4 Synergies with EU digital agenda

Over the last few years, digital technologies have transformed the economy and society, affecting all sectors of activity and the daily lives of all Europeans. Data is at the centre of this transformation and more is to come. Data-driven innovation will bring enormous benefits for citizens, for example through improved personalized medicine, new mobility and through its contribution to the European Green Deal. In a society where individuals will generate ever-increasing amounts of data, the way in which the data are collected and used must place the interests of the individual first, in accordance with European values, fundamental rights and rules. Citizens will trust and embrace data-driven innovations only if they are confident that any personal data sharing in the EU will be subject to full compliance with the EU's strict data protection rules. At the same time, the increasing volume of non-personal industrial data and public data in Europe, combined with technological change in how the data is stored and processed, will constitute a potential source of growth and innovation that should be tapped[2].

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[2] https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020DC0066&from=SL

The European data space will give businesses in the EU the possibility to build on the scale of the Single market. Common European rules and efficient enforcement mechanisms should ensure that:

- data can flow within the EU and across sectors;

- European rules and values, in particular personal data protection, consumer protection legislation and competition law, are fully respected;

- the rules for access to and use of data are fair, practical and clear, and there are clear and trustworthy data governance mechanisms in place;

- there is an open, but assertive approach to international data flows, based on European values[3].

Among other things, the participants pointed out several problems that are in the spirit of the EU data strategy, namely that as much data as possible should be in machine-readable form, that data should be available in real time, e.g. data from IoT devices. In this scope, they said that they also want as many APIs as possible, which is also in the line of the new Directive on Open Data and Reuse of Public Sector Information, where they also establish the concept of high-value datasets that will have to be accessible via APIs. The participants also considered it important that the data be integrated at the national level, which can also be achieved by increasing the interoperability of data and establishing a data dictionary, which is in plan to be established at the Ministry of Public Administration. They also mentioned lack of the data which are created at the municipal level.

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[3] https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020DC0066&from=SL

4. Guidelines to advocate for strengthening the implementation of digital agenda and entrepreneurship

4.1 Guidelines for strengthening the implementation of the digital agenda and entrepreneurship in the field of open data at regional / national level

In order to improve the implementation of the digital agenda and entrepreneurship in the field of open data at the local and national level, it would be necessary to raise the awareness of decision-makers in individual local and national organizations. Namely, access to machine-readable data via APIs is still one of the major barriers.

Stakeholders (users) should point out which are the data that bring them the greatest added value in their business model. Thus, the managers of these databases would have a list of databases that they would open and offer for use as a priority. It is also important that, for example, the Start-up community also has a list of those projects based on the data economy in the records of their projects. This would also provide examples of good practice and the extent to which open data is used.

For additional awareness raising, it is necessary to conduct annual seminars for various stakeholders in order to get acquainted with innovations in the field of open data and awareness raising. Encourage the re-use of open public sector data and also encourage companies to share the data they generate, to share it with the community, taking into account all business secrets and the protection of personal data.

5. Highlight the market approach and funding opportunities to ensure the development of OD / LOD as accelerators of the digital economy

5.1 Open data impact

Introduction

Open (Government) Data (EDP 2020) refers to the information collected, produced or paid for by the public bodies (also referred to as Public Sector Information) and made freely available for re-use for any purpose.

Benefits of Open Data

The benefits of Open Data are diverse and range from improved efficiency of public administrations, economic growth in the private sector to wider social welfare.

Performance can be enhanced by Open Data and contribute to improving the efficiency of public services. Greater efficiency in processes and delivery of public services can be achieved thanks to cross-sector sharing of data, which can for example provide an overview of unnecessary spending.

The economy can benefit from an easier access to information, content and knowledge in turn contributing to the development of innovative services and the creation of new business models.

Social welfare can be improved as society benefits from information that is more transparent and accessible. Open Data enhances collaboration, participation and social innovation.

Figure 1. Benefits of open data

The economy can benefit from easier access to information, content and knowledge in turn contributing to the development of innovative services and the creation of new business models.

For 2016, the direct market size of Open Data is expected to be 55.3 bn EUR for the EU 28+. Between 2016 and 2020, the market size increases by 36.9%, to a value of 75.7 bn EUR in 2020, including inflation corrections. For the period 2016-2020, the cumulative direct market size is estimated at 325 bn EUR.

New jobs are created through the stimulation of the economy and a higher demand for personnel with the skills to work with data. In 2016, there will be 75,000 Open Data jobs within the EU 28+ private sector. By 2020, this number will increase to just under **100,000 Open Data jobs**. Creating almost 25,000 new direct Open Data jobs by 2020. Overall is expecting more between **1.1 to 1.9 million employees** till 2025.

Public sector performance can be enhanced by Open Data. Greater efficiency in processes and delivery of public services can be achieved thanks to cross-sector sharing of data, providing faster access to information. The accumulated cost savings for the EU28+ in 2020 are forecasted to equal **1.7 bn EUR**.

Open data economic growth is expected especially in particular sectors: Tourism, research and data science, high potential is also expected in agrifood, cost saving, health care, trade and education.

Open Data results in efficiency gains as real-time data is used that enables easy access to information that improves individual decision-making.

The European Data Portal publishes study **The Economic Impact of Open Data: Opportunities for value creation in Europe**[4] in which the key findings are:

1. The specification and implementation of high-value datasets as part of the new Open Data Directive is a promising opportunity to address quality & quantity demands of open data.
2. Addressing quality & quantity demands is important, yet not enough to reach the full potential of open data.
3. Open data re-users have to be aware and capable of understanding and leveraging the potential.
4. Open data value creation is part of the wider challenge of skill and process transformation: a lengthy process whose change and impact are not always easy to observe and measure.
5. Sector-specific initiatives and collaboration in and across private and public sector foster value creation.
6. Combining open data with personal, shared, or crowdsourced data is vital for the realisation of further growth of the open data market.
7. For different challenges, we must explore and improve multiple approaches of data re-use that are ethical, sustainable, and fit-for-purpose.

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[4] The Economic Impact of Open Data: Opportunities for value creation in Europe https://www.europeandataportal.eu/sites/default/files/the-economic-impact-of-open-data.pdf

5.1.1 Harmonizing Open Data in the Mediterranean

In 2013, a study was issued that took stock of the status of Open Data in eight Mediterranean European countries (Spain, Italy, France, Malta, Greece, Slovenia, Cyprus and Montenegro). These countries were involved in the HOMER project: Harmonising Open Data in the Mediterranean through Better Access and Re-use of Public Sector Information. HOMER was a three year strategic project with the focus on Open Data that started in April 2012 and ended in April 2015. The objective was to facilitate the deployment and address legal, cultural and technological challenges of Open Data. The rationale for this project was to bridge the gap – that became apparent in 2010 – of these Mediterranean countries with the rest of Europe. The study examined the status of Open Data policies in the eight HOMER countries and estimated the socioeconomic impact of the HOMER project. In the eight countries the Open Data market is valued at 3.3 billion EUR in 2013. The forecast was that it will increase with 3.6 billion EUR in 2014, which constitutes 9% of the total Open Data Market in the EU (which is considered to be around 42 billion EUR in 2014) (Carrara, 2015)

Harmonizing Open Data in the Mediterranean area we further strengthened the implementation of pilot activities of the Odeon project, especially through the creation of a online platform Opendatahubs.eu, and with established of 7 local open data hubs, which were successfully operated in the project activities.

6.   Start-up opportunities

Open Data has an empowering effect for entrepreneurs by creating opportunities for new business models, products and services by providing a wealth of free material for developing software applications for desktop and mobile use. Consequently, a large share of the 100,000 Open Data jobs in 2020 should be Open Data professionals. Moreover, the Open Data movement is strengthened by the presence of Open Data-driven start-ups (EDP entr, 2020)[5].

Such start-ups reinforce the general chain of arguments regarding the high economic impact that Open Data has. They demonstrate - through their business activities - the direct benefits that Open Data can have on job creation, new business models and the economy as a whole. Entrepreneurs working as data analysts, data intermediaries, software developers and other data-related professionals form an important group of re-users. By coming up with tangible Open Data products and services, public organisations will be persuaded to invest further in Open Data programmes. In addition, small innovative start-ups working with Open Data can pave the way for larger companies and public organisations to adopt new Open Data solutions. The importance of the enabling effect of Open Data on start-ups and vice versa is highlighted in the latest Analytical Report on Open Data and Entrepreneurship. The report discusses the role of entrepreneurs in Open Data innovation, the relationship between Open Data and sustainability, and key Open Data barriers to entrepreneurship. The report also looks at the main policies implemented at EU level to promote Open Data-driven entrepreneurship and provides an overview of best practises in the field of Open Data.

Examples such as Xpressomics (a search engine for genetic data), Farm Dog (a data driven company making healthy and environmentally sustainable food accessible to everyone) or PlumeLabs (an example of a company that was able to achieve minimum viable product and prototype with Open Data) (EDP entr, 2020)[6].

Another source represents slightly different aspects of open data opportunities as follows. Most of the examples available regarding the use of Open Data in businesses come from start-ups. This is an interesting finding, presenting the need to strongly support "open data" start-ups.

Open data jobs: the direct and indirect open data jobs are measured as the number of persons employed. The difference between direct and indirect is the following: "Start-ups that are using open data for their business are directly creating open data jobs, like open data analysts or product marketers. If these businesses that make use of open data also need a sales manager for their company as it gets bigger, this would be an indirect job that is created" (Carrara, 2015). To estimate the number of direct open data employees, a series of Spanish studies from Asedie (2019)[7] researching the number of people directly employed in the Spanish private open data sector (thus not including public sector) are used. To forecast the number of open data employees, the Eurostat employment forecast and Cedefop skills forecast are used. The total (direct and indirect) open data job market is estimated at 235,700 – 284,900 in 2016 and it was forecast to be 312,600 – 377,000 in 2020.

As presented by both sources, the methodology is different and also the data presented vary and cannot be directly compared. But as we can realise, the potential of open data is huge and start-ups play an important role.

Open data encourages business development of ideas and, in particular, helps organizations to optimize supply chains so that all elements of services or product delivery are more efficient. At the same time, the growing availability of open data to both governments and businesses offers completely unexpected connections and opportunities.

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[5] EDP - European Data Portal, https://www.europeandataportal.eu/en/training/what-open-data,
[6] EDP entr - European Data Portal - Open Data and Entrepreneurship.
https://www.europeandataportal.eu/en/highlights/open-data-and-entrepreneurship
[7] ASEDIE (2019) available at: http://www.asedie.es/assets/asedie.-infomediary-sector-report-2019.pdf

6.1 Conclusion and recommendation for co-financing

We can conclude that open data are becoming more and more important. Also European Union has adopted legislation to encourage the re-use of Open (Government) Data. The expected impact of this legislation in combination with the development of data portals, is to promote economic benefits and further transparency. Economic benefits arise primarily from the re-use of Open Data. They allow faster and easier access to more information, which enables better decision making. In addition, the reuse of Open Data can improve existing products and services or be used to develop new products and services.

Especially for small and medium enterprises and start-ups, which normally may not be able to acquire access to data or generate similar data themselves, open data opens up a range of opportunities (Huyer, 2020). On the other hand, most of the examples available regarding the use of Open Data in businesses come from start-ups. Also the assessment of open data jobs potential in EU indicates a great opportunity for start-ups. This is an important finding that points to the need to strongly support Open Data start-ups. This is a challenge for government institutions, technology parks and other stakeholders related to innovation and entrepreneurship.

The Mediterranean region is also following the EU trend and has already established many databases, which represent a great interest. And the ODEON project is show that the potential for Open data start-up is also very high in this region.

Government support is very important to encourage the use of open data and provide financial support to entrepreneurs. The best results were achieved by the countries that have established a complete support system for the open data ecosystem.

For the support and development of open data start-ups, it is crucial to build the **Open Data ecosystem**, which has a very strong connexion with domain experts, business experts and technical expertise, but also the broader ecosystem, including access to citizens, media, data owners and providers.

This support might take several forms: Reducing regulatory restrictions, expanding networks or funding via innovation and technology grant programs, which are also described in the W3.org paper. Among these, there are some important policy actions that can be explored.

Competitions to encourage innovation are a cornerstone of Open Data funding policy. These often take the form of hackathons, low-cost and time-limited opportunities for developers to work with data to create innovative products and services, often along a theme such as mobility, green and blue energy, and also a culture, these are also the themes we have addressed in the implementation of the ODEON project.

Hackathons are a very good opportunities to develop ideas and exchanging knowledge and resources. Through them, startup companies can also experience potentially valuable opportunities to present to future investors, and thus have also influence on the long-term success of open data projects.

Organized **hackathons and study visits to make the link between business, domain and data skills**, as these all need to be present for a successful Open Data business and is also important to engage students and young people from early stages.

The basis for this is certainly a financial incentive, which can come in a variety of forms. Annual thematic hackathons run by the government or Ministry of Public Administration can be used to create the conceptual designs.

There is a good case from Ireland[8], where the competent ministry publishes a tender for co-financing (Example of a tender: https://data.gov.ie/ assets / Open-Data-Engagement-Fund-2020-2021.pdf) of projects that by different categories encourage the use of open data, from promoting awareness of the importance of open data, the re-use of open country data, the benefits of open data for Ireland and the effects of open data. In all categories, the share of co-financing is between € 200 and € 5,000.

Both cases could be used at national as well as local level. Even the source of funding is not necessarily just state.

Another approach, which is widely used in supporting start-ups across the globe, is the **incubator or accelerator**. As described in the Analytical Report 10: Open Data and Entrepreneurship[9] there have been a number of these across Europe, including FINODEX, ODINE, Data Pitch (which combines the challenge format with an accelerator) and the OpenActive accelerator (May 2018). The EU is investing strongly in this area, with 7.1m euros of funding for the Data Pitch accelerator, which encourages corporates and start-ups to collaborate on data, as a follow on from ODINE. Eighteen data start-ups entered the Data Pitch accelerator in February 2018.

The Open Data Incubator for Europe (ODINE)26 attracted and funded a group of innovative digital startups and very young companies, plus a few SMEs looking for opportunities for growth. For most of the companies the project launched with ODINE represented their core business, suggesting that the programmės influence on their business and growth perspective was strong. The number of start-ups applying to ODINE (over 950) and fellow Open Data accelerator FINODEX (493) highlights the size of interest from entrepreneurs in applying to such programmes.

Investment in national and regional acceleration and incubation programmes with strong links to local ecosystems is crucial to strongly influence the success rate of Open Data projects even after the acceleration phase.

Such co-funding could also be offered by professional associations, which would in this way encourage the search for innovative solutions for different content areas. For example, the Insurance Association and would look for solutions in the field of insurance.

The first step could be what information their members need for a better business. All in all, it is important that it is a coordinated action that could be coordinated by **OPEN DATA hubs**, which was developed bay ODEON project.

The sustainability of open data is also key to the success of statutes and entrepreneurship, which also requires a constant flow of funding for the publication of open data, either from the government or the private sector. In addition, it is important to be aware of data reuse, as it can have a significant impact on the development of entrepreneurship, as well as understanding the environmental and social value of open data.

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[8] Irish model: https://data.gov.ie/pages/open-data-engagment-fund
[9] Analytical Report 10: Open Data and Entrepreneurship - https://www.europeandataportal.eu/sites/default/files/analytical_report_10_open_data_and_entrepreneurship.pdf