Internal Report No. 1

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Project start date:	November 15, 2018
Project duration:	36 months

Abstract	This report represents integral Internal Report No. 1, i.e. the report of quality control and monitoring of the ADA project, for the period from the start of the project (15 November 2018) until 15 March 2020 and it is a result of the activity 5.3 Internal Project Control and Monitoring. It consists of the internal quality reports of each project partner as well as an overview of quality assessment of study visits realized during reporting period.

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Version	Date	Revision description	Partner responsible
1.0	14/04/2020	Creation of document	UNIKG

Contents

Internal Report No. 1 - Summary

The Internal Report No. 1 represents the report of quality control and monitoring od ADA project, for the period from the start of the project (15 November 2018) until 15 March 2020 and it is a result of the activity 5.3 Internal Project Control and Monitoring. Namely, due to the late start of the WP5: Quality Control and Monitoring, the main document of this WP – Quality and Assessment Plan, which describes organization and management structure and the relationships between the partners and determines and describes quality expectations and quality metrics of project outputs and outcomes and project-related activities, as well as the key aspects and procedures for internal and external monitoring and risk management, was adopted at Steering Committee meeting held in Vienna in March 2020. This Plan also defines the responsibilities of the members of Quality Control Committee of the ADA project and the template for the preparation of periodical internal quality reports. Therefore, after this meeting all necessary conditions were met, and project team members worked on the preparation of this report, which covers the longer period, from the start of the project. Future reports will be prepared every 3-4 months, in accordance with the WorkPlan from the Project Application.

Each project partner prepared its own internal report, which are in the Annexes section, so more details about the activities, experienced problems and measures taken by each partner may be found there and here they will not be elaborated in details. General conclusion is the ADA project flows well, without big problems which significantly endanger its realization and results. As one of the common problems, encountered by several project partners, is the Corona virus outbreak. Due to this problem, some of the meetings during study visit to WU Vienna had to cancelled. Also, the procedure of equipment purchasing has not been finished in time at two Serbian HEI partners, as the supply lines from China were broken. Another common issue is long accreditation procedure in Serbia, and it is not clear yet when new master study program in advanced data analysis will be accredited and students enrolled.

Quality assessment of study visits

During reporting period, kick-off meeting and four study visits, one to each of EU partners, were organized:

- Kick-off meeting, held at the University of Novi Sad, Serbia (UNS), on November 26-27, 2018
- Study visit to the Graduate School in Computer Science and Mathematics Engineering, Cergy, France (EISTI), on March 18-20, 2019
- Study visit to the Centre for Research and Technology Hellas, Thessaloniki, Greece (CERTH), on July 01-02, 2019
- Study visit to the University of Rome Tor Vergata, Rome, Italy (UNITOV), on November 18-20, 2019
- Study visit to the Vienna University of Economics and Business, Vienna, Austria (WU), on March 10-12, 2020.

The quality assessment of each of these meetings was performed using online questionnaires (using Google Forms), a few days after each visit. The structure of the questionnaire is determined by the Quality and Assessment Plan, Annex E, and the respondents were asked to assess their satisfaction with Time and Schedule of the meetings, Location and Equipment, Materials, Effectiveness and Productivity and finally, Overall Experience and give additional comments. All questions were answered on a four-point scale, with 0 representing completely disagree and 3 representing completely agree. The number of participants and respondents for each meeting, as well as averages of answers to the questions are presented in the Table 1.

General opinion was that all meetings were well organized and very useful and effective, with materials, such as Agenda, sent before the meeting. Concerning problems and suggestions, only a few respondents reported minor issues with the Wi-Fi, some of the

respondents suggested more joint lunches and/or dinners, where in more informal atmosphere the participants could discuss and talk, and finally several respondents mentioned the negative influence of Corona virus outbreak on the meeting at the WU in Vienna.

Table 1: Overview of the satisfaction with the project meetings

	Kick-off at UNS	Study visit to EISTI	Study visit to CERTH	Study visit to UNITOV	Study visit to WU
Number of participants	15	19	16	20	18
Number of responses	14	13	16	20	18
Statements	Mean value of the answers on four-point scale (0-3), with 0 = completely disagree and 3 = completely agree				
The times of the meetings were convenient for me	2.86	2.92	2.94	2.90	3.00
The schedule of the meeting was convenient for me	2.86	2.92	2.86	3.00	2.94
The location was suitable for this type of a meeting	2.93	2.69	2.94	2.85	3.00
The provided equipment was suitable for the meeting	3.00	2.85	2.94	2.95	3.00
The materials were clear and understandable	3.00	3.00	2.93	2.95	2.89
The materials were informative and useful	2.86	2.85	2.81	2.95	2.83
The content of the meeting was useful and informative	2.64	2.69	2.86	2.90	2.89
I have had sufficient opportunities to voice and discuss my ideas/ suggestions/opinions	3.00	2.92	2.86	2.95	2.83
How would you rate the overall effectiveness of the meeting?	**2.86**	**2.92**	**2.87**	**3.00**	**2.83**

ANNEXES

Internal report No. 1

- University of Novi Sad, Serbia
- University of Belgrade, Serbia
- University of Niš, Serbia
- University of Kragujevac, Serbia
- Vienna University of Economics and Business, Austria
- Graduate School in Computer Science and Mathematics Engineering, Cergy, France
- University of Rome Tor Vergata, Italy
- Centre for Research and Technology Hellas, Greece
- Serbian Association of Managers, Serbia

INTERNAL REPORT No. 1

Project partner	University of Novi Sad (UNS)
Reporting period	15.11.2018 – 15.03.2020
Description of all activities realised by project partner during reporting period and achieved results:	1.1 Analysis of best practise and comparative analysis The Analysis was done after the kick off meeting of the Steering Committee (SC). The members of the team (at the same time teachers at respective universities), has prepared reports about best practises at their universities and comparative analysis will be done. We actually made not only the overview of best practices in EHEA, but also an overview of related courses to business analytics in Serbia (Deliverables 1.1.1 Analysis of status of various courses related to BA at Serbian universities; 1.1.2 Analysis of best practice at EU partner Universities). Survey on stakeholders in Serbia about the status of business analytics and their needs in the area of business analytics has been made also (Deliverable 1.1.3 Survey on stakeholders in Serbia). 1.2 Development of learning outcomes and competencies On the basis of previous analysis and intensive discussion between team members and various stakeholders, we have developed Deliverable 1.2 Learning outcomes and competencies (booklet). The booklet contains definition of learning outcomes and competencies which must have any business analyst, taking into account particular situation in companies of Wester Balkans. 1.3 Development of program, modules, syllabi of all courses and ECTS The program, syllabi and ECTS were developed during the first year of the project. The team of professors from

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all Serbian universities and representatives from companies were working together with EU colleagues, to make the final version of the programs. A series of meetings was held in order to define program, potential modules and all courses and syllabi. For curriculum development, courses in statistics, operational research, econometrics, risk analysis, supply chain management, data mining, predictive modelling, multivariate testing, were revised in order to be more compatible with business analytics, while completely new courses are machine learning, big data analytics, text analytics, data visualization, business intelligence reporting, and self-service analytics platforms. Since three universities in Serbia are developing their own study programs, there are some differences in curriculums. Universities of Novi Sad and Niš are developing study programs at faculties of economics, while the study program at University of Belgrade will be at university level and with modules. During development of study programs, other important issues were discussed too: student internship, career development measures and attention that should be given to vulnerable groups. When it comes to student internship, there is initiative from EISTI (Graduate school in computer science and mathematics engineering in Cergy) to provide several internship places for our students in French companies.

Since our intention from the start is to develop internationally attractive program, special attention is focused on the engagement of teachers from partner universities in EU. In the case of University of Novi Sad, there are five visiting professors: from University Tor Vergata, Vienna University of Economics and Business, University of Macedonia, and Technical University in Ulm.

Equipment: UNS signed the contract with vendors on August 2019. The value of the contract was approximately 45,315 EUR. All equipment was delivered and installed at UNS until February 2020. One entire classroom at the Faculty of Economics was equipped with All-in-one computers, software, and accompanying equipment for teaching the business analytics on ADA

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	master. Laptops and printers are distributed to teachers for the preparation of teaching materials for the study program. When it comes to the equipment, everything is ready for the start of ADA master in October 2020. Finally, UNS coordinated all management activities of the project.
Have you experienced any problems or deviations from the plan and schedule (and which)? (explanations for tasks not fully implemented, critical objectives not fully achieved and/or not being on schedule. Explanation of the impact on other tasks, available resources and the overall planning)	Since we have changed the structure of ADA master at UNS, from 90 ECTS to 120 ECTS, we have experienced a certain delay regarding the decision procedure at level of faculty and university. This delay by itself is not the big problem, but due to outbreak of Covid-19 virus the question is when and how the rectory of UNS will give the approval of ADA master and when National Accreditation Body will put the submitted study programs into accreditation procedure.
Measures undertaken to overcome problems and shortcomings:	- Well planned activities focused on the acceleration of decision procedures at university. - Intensive and permanent contact with National Accreditation Body. - Open discussion with all parties participating in ADA project. - Predicting possible competing priorities and events that can endanger accreditation of study program.
Suggestions for other partners and for future period (if any):	To take the same measures as we did at UNS.

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Activities planned for the following reporting period:	While waiting for Covid-19 pandemia to end: Intensive communication with all partners through e-mails and Skype. Collection of reports from all partners. Preparation and submission of Interim Report. Submission of ADA master to National Accreditation Body.					
Estimated degree of realisation of the WP activities (from LFM matrix of project proposal) for which project partner is responsible for (to be filled only by project partners leading work package):	WP1 Development of a new program in Advance Data Analytics in Business					
	Activity	0%-20%	20%-40%	40%-60%	60%-80%	80%-100%
	1.1 Analysis of best practice and comparative analysis					X
	1.2 Learning outcomes and competencies					X
	1.3 Program, modules, syllabi of all courses and ECTS					X
	WP6 Management of the project					
	Activity	0%-20%	20%-40%	40%-60%	60%-80%	80%-100%
	6.1 Project coordination meetings			X		
	6.2 Efficient overall project management			X		
	6.3 Efficient local project management			X		
	6.4 Interim Report (IR) and Final Report (FR)	X				
Prepared by:	Mirko Savić					
Date of reporting:	23/03/2020					

Note: Please add relevant attachments to this report (when applicable)

INTERNAL REPORT No. 1

Project partner	University of Belgrade (UB)
Reporting period	15.11.2018-15.03.2020
Description of all activities realised by project partner during reporting period and achieved results:	WP1.2 Development of learning outcomes and competencies - Development of the ADA project booklet

The essence of modern data analytics and brief descriptions of the new study programs are provided in the ADA project booklet (developed by UB, with the help of UNS, UNI and other project partners). The booklet is available in English and in Serbian in its electronic version.

WP2.1 Purchase of equipment

UB signed the contract with the vendor on September 30, 2019. The equipment has not been delivered, nor installed at UB yet, as of March 2020, due to procedural reasons and Corona virus outbreak. Namely, there have been administrative delays in the process of signing the contract, then UB had to wait for the supplier to assemble all the equipment (3 months deadline), but in the meantime the supply channels from China got disturbed due to the Corona virus.

WP2.2 Organization of workshop in Serbia on teaching methodology in advanced data analytics

WP2.3 Preparation of the Guide in methodology

This task has been postponed until the workshop planned in the activity WP2.2 is organized.

WP2.4 Study visits of staff from Serbia to EU |

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Four study visits to the participating EU institutions have been organized in the reporting period for teachers who will teach new courses in the new study programs on advanced data analytics in business:

- Representatives of all project partners have made a study visit to the Graduate school in computer science and mathematics engineering (EISTI), Cergy, France (March 18-20, 2019). Two teachers from UB have participated.

- Representatives of ADA project partners have visited the CERTH Institute in Thessaloniki, Greece (July 1-2, 2019). No representative from UB could participate (see the next section for explanation).

- All ADA project partners have made a study visit to the University Tor Vergata, Rome, Italy, in November 2019. Two representatives from UB have participated.

- All ADA project partners have made a study visit to the Vienna University of Economics and Business, Vienna, Austria, in March 2020. Two representatives from UB have participated.

WP2.5 Preparation of the courses and teaching material

The teaching staff selected for the new study program at UB has already prepared a lot of teaching materials. The teachers are already familiar with most of the relevant software to be used in teaching. If the need arises over time, some teachers will go through additional training for using this software. Most of the relevant textbooks and periodicals are provided for students in the libraries of the Serbian universities, but it is important to stress that a decision has been made to encourage students to use

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	free, open-source, online textbooks, software and other learning materials possible. WP2.6 Preparation of the LLL program At the end of this working package, the workshop on LLL program will be organized in order to define all the elements regarding business analytics for professionals already working in companies. No activities to this end have been conducted during the reporting period. WP3.1 Preparations for accreditation of the new study programs UB has developed its new master study programs in advanced data analytics. It primarily targets students interested in technology of advanced data analytics, as well as those interested in applications related to medicine, social sciences and scientific computation. The program has been officially approved by the Senate of the University of Belgrade and is now getting ready for submission for accreditation to the National Accreditation Body of the Republic of Serbia.
Have you experienced any problems or deviations from the plan and schedule (and which)? (explanations for tasks not fully implemented, critical objectives not fully achieved and/or not being on schedule. Explanation of the impact on other tasks, available resources and the overall planning)	WP1.2 Development of learning outcomes and competencies - Development of the ADA project booklet Printed versions of the booklet in Serbian and in English will be available only after the new study programs have been accredited, since due to rapid developments in the field of data analytics minor changes in the booklet text might be necessary over time. WP2.1 Purchase of equipment It has been originally envisioned that UB will organize and conduct a joint tender for purchase of equipment for implementation of the master study programs in advanced data analytics. However, over the course of the activities related to this task it has been decided that the

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tender will be organized by UNS. To compensate for this, UB has agreed to prepare a booklet on advanced data analytics and study programs developed as the major outcome of the ADA project.

WP2.2 Organization of workshop in Serbia on teaching methodology in advanced data analytics

This task has been originally envisioned to take place at the beginning of this work package. The workshop has been postponed for a later date, since other tasks in this work package have taken more time than planned due to unforeseen administrative difficulties (see below). The proposed date (18.05.2020) might also turn out to be inappropriate, due to the COVID-19 situation in Europe.

WP2.3 Preparation of the Guide in methodology

This task has been postponed until the workshop planned in the activity WP2.2 is organized.

WP2.4 Study visits of staff from Serbia to EU

Representatives from UB could participate in the study visit to CERTH – the visit has come in the middle of the exam period at UB and some last-minute changes in the schedules have made it impossible for participants from Belgrade to come to CERTH.

WP3.1 Accreditation of master study program

Although much of the ADA study program at UB has been prepared for accreditation early in the project, unforeseen administrative difficulties have arisen over the course of these activities. The National Accreditation Body of the Republic of Serbia has tightened the accreditation regulations *after* the project started, and has made them effective in March 2019.

In brief, there is now a very strict control of the structure of all study programs to be submitted for accreditation in

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| | higher education institutions in Serbia, and the procedure is lengthier than before. Submission for accreditation is now conducted using a software application that universities in Serbia are still not completely familiar with, and there are constraints on who can use the application. People who can be granted access to this application usually need additional training for working with it. The application also requires much more input data than it was the case in earlier accreditations, and these data are in some cases not easy to obtain. For example, in cases when teaching staff from different faculties participates in a new study program to be accredited, official statements of their teaching workload from their faculties are required as input parameters for the application, and these take a lot of time to obtain in an accurate and up-to-date form.

There are also strict requirements related to the certificates of the teachers' and students' language competences, and these take even more time to collect.

Another severe difficulty is that since March 2019 the accreditation fee for a study program has increased for more than 100%. This imposes a serious restriction on the budget of the ADA project partners from Serbian universities. Some funding from the travel budget line will have to be reduced in order to compensate for the accreditation fee. |
|---|---|
| Measures undertaken to overcome problems and shortcomings: | WP3.1 Accreditation of master study program

The difficulties explained in the previous section are slowing down the accreditation process. To cope with them, UB has taken a proactive approach. The project representative from UB has organized a seminar for teachers and administrative staff from UB, as well as numerous in-house training sessions on using the new application for preparation of accreditation of new study programs. The idea was to involve more people in the preparation of the accreditation documents for |

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	submission using the new application. Likewise, the project considers spending some of its budget to organize official language competence tests for their teachers. More administrative and teaching staff is now included in the finalization of the study program documentation, since a number of activities require strict checkups before the documentation is submitted for accreditation. Unfortunately, the COVID-19 situation is now dramatically slowing down the process.
Suggestions for other partners and for future period (if any):	-
Activities planned for the following reporting period:	WP2.1 Purchase of equipment This process will be finalized once the situation related to COVID-19 clears. WP2.2 Organization of workshop in Serbia on teaching methodology in advanced data analytics This process will be finalized once the situation related to COVID-19 clears. WP2.3 Preparation of the Guide in methodology This task will be completed after the workshop planned in the activity WP2.2 is organized. WP2.4 Study visits of staff from Serbia to EU UB representatives will try not to miss any of the forthcoming study visits. WP2.6 Preparation of the LLL program This activity will be organized towards the end of this working package.

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Estimated degree of realisation of the WP activities (from LFM matrix of project proposal) for which project partner is responsible for (to be filled only by project partners leading work package):	WP2 Preparations for implementation of new master program					
	Activity	0%-20%	20%-40%	40%-60%	60%-80%	80%-100%
	WP2.1 Purchase of equipment				X	
	WP2.2 Organization of workshop in Serbia on teaching methodology in advanced data analytics			X		
	WP2.3 Preparation of the Guide in methodology	X				
	WP2.4 Study visits of staff from Serbia to EU		X			
	WP2.5 Preparation of the courses and teaching material					X
	WP2.6 Preparation of the LLL program	X				
Prepared by:	Vladan Devedžić					
Date of reporting:	26.03.2020					

Note: Please add relevant attachments to this report (when applicable)

INTERNAL REPORT No. 1

Project partner	University of Nis (UNI)
Reporting period	15.11.2018 – 15.03.2020.
Description of all activities realised by project partner during reporting period and achieved results:	- Analysis of status of various courses related to business analytics at Serbian universities; - UNI and other Serbian partners (UNS and UB) prepared syllabi of their master courses, learning outcomes, competences and details on duration of master course and ECTS. - Study visits of teaching staff to EU partners were carried out; - All necessary equipment for realization of master program was purchased.
Have you experienced any problems or deviations from the plan and schedule (and which)? (explanations for tasks not fully implemented, critical objectives not fully achieved and/or not being on schedule. Explanation of the impact on other tasks, available resources and the overall planning)	Accreditation procedure started at institutional level. Every study program needs the approval from the following decision bodies: Departments – Council of Teachers at faculties – Check of the program through software of NAT - Quality Committee at University – Expert Council – Senate of the university. Afterwards study program can be submitted to the National Accreditation Body (NAT). According to the plan, activity 3.1. Accreditation of the master study program was meant to be realized in the period between October 2019 and the end of March 2020, but due to Covid-19 pandemic and state of emergency all activities have been postponed.
Measures undertaken to overcome problems and shortcomings:	Any measures to overcome current problems related to accreditation procedure are out of the UNI control as UNI must comply with government orders.

Suggestions for other partners and for future period (if any):	
Activities planned for the following reporting period:	The next phase is submission of documents for accreditation to the National Accreditation Body.

Estimated degree of realisation of the WP activities (from LFM matrix of project proposal) for which project partner is responsible for (to be filled only by project partners leading work package):	WP3 Implementation of the program					
	Activity	0%-20%	20%-40%	40%-60%	60%-80%	80%-100%
	3.1 Accreditation of master study program			X		
	3.2 New master program implemented	X				
	3.3 New LLL program implemented	X				
	3.4 Report on feedback and final analysis	X				

Prepared by:	Vesna Janković-Milić
Date of reporting:	07.04.2020.

Note: Please add relevant attachments to this report (when applicable)

INTERNAL REPORT No. 1

Project partner	University of Kragujevac (UNIKG)
Reporting period	15.11.2018 – 15.03.2020
Description of all activities realised by project partner during reporting period and achieved results:	The description of the activities realised by UNIKG project team will be presented by Work Packages. Within WP1, UNIKG participated in all project activities, although it is not developing new master study program in advanced data analytics in business (in English). Based on the analysis of best practises of EU countries and comparative analysis, UNIKG project team developed specific learning outcomes and competencies and, based on these results, developed several new courses, which will be taught at new master study program Business Informatics (module Artificial Intelligence in Business), at the Faculty of Economics of the UNIKG. All materials for these courses were prepared and submitted for the accreditation of the institution and the study program, which is in progress (WP3). In addition, UNIKG project team have participated in all study visits to EU partners in the reporting period.

UNIKG representatives also participated in the equipment purchasing procedure (WP2). Two representatives of UNIKG participated in joint project board-team, responsible of the organization and implementation of public procurement. Although the supplier was successfully selected and UNIKG signed the contract with it in September 2019, the shipment and payment are not finished yet, due to COVID-19 problems.

The main activities of UNIKG project team were in WP4 and WP5. Namely, as a Leader of WP4, UNIKG prepared draft version of a Dissemination and Exploitation Plan, which was accepted by Steering Committee (SC) at the meeting in Cergy in March 2019. |

In addition, UNIKG organized procedure of proposing and selection of project logo, as one of the main visual identity elements. UNIKG project team developed ADA project website (draft version was already prepared for kick-off meeting held in Novi Sad in November 2018). The website is hosted and maintained by UNIKG project team, and regularly updated with the latest project activities and results. In the reporting period, 39 news (events, activities, etc.) and 8 project results (reports in e-form) were published at the project website. Finally, UNIKG project team also developed ADA project profile at LinkedIn, well-known business social network, which is regularly maintained and updated. UNIKG project team also promoted ADA project and its objectives during their visits to other universities and participation to various events, which was published at the project website.

On its meeting in Rome, in November 2019, Steering Committee of the ADA project decided to transfer the WP5 leadership from the Vienna University of Economics and Business Administration to the UNIKG. Based on this decision, UNIKG project team prepared draft version of Quality and Assessment Plan, which was disseminated to the other project partners, and finally accepted by SC at the meeting in Vienna in March 2020. In addition, UNIKG project team also prepared draft version of Metrics for ADA, the list of indicators which will be used for the quality assessment of developed master study programs. The list was fine-tuned and accepted during Workshop on metrics for ADA, organized during SC meeting in Vienna. In addition, UNIKG representative coordinates the work of Quality Control Committee and the work on internal reporting. Finally, UNIKG project team participated in the preparation of this internal quality report.

UNIKG representatives participated in all management activities and CS and Local Committee meetings. In addition, they worked on local financial and technical reporting and coordinated their work with Project Coordinator.

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Have you experienced any problems or deviations from the plan and schedule (and which)? (explanations for tasks not fully implemented, critical objectives not fully achieved and/or not being on schedule. Explanation of the impact on other tasks, available resources and the overall planning)	The most significant problem experienced by UNIKG is equipment purchasing. Although UNIKG signed the contract with vendors in September 2019, due to minor technical problems and Corona virus pandemic which has affected supply chains from China, vendor has officially notified authorities of UNIKG that he was not able to deliver purchased equipment in time defined by the contract.
Measures undertaken to overcome problems and shortcomings:	UNIKG representatives are in permanent contact with supplier, which already asked and got 3-week extension of the deadline. But, due to current COVID-19 situation, it is hard to predict when this will be finished. Fortunately, if all goes well with the accreditation, the new courses developed in ADA project will start in November 2020, so this problem still doesn't significantly affect the project.
Suggestions for other partners and for future period (if any):	No
Activities planned for the following reporting period:	Due to COVID-19 problems, it is hard to predict how and what will be possible to do in the next period. UNIKG will use intensive online communication and collaboration with all project partners. In the following period, UNIKG expect to finish first equipment purchasing procedure, receive and install all purchased equipment. Also, UNIKG will participate in activities related to the second equipment purchasing procedure (remaining money for the Equipment). Also, we hope that accreditation procedure will be finished and that we will be able to start to promote new courses to the students.

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	UNIKG will continue to coordinate the activities WP4 and WP5, which it leads, and to maintain project website and LinkedIn profile. Finally, in coordination with Project Coordinator, UNIKG will work of the preparation and submission of Technical Interim Report.					
Estimated degree of realisation of the WP activities (from LFM matrix of project proposal) for which project partner is responsible for (to be filled only by project partners leading work package):	WP4 Dissemination and exploitation of project results					
	Activity	0%-20%	20%-40%	40%-60%	60%-80%	80%-100%
	4.1 Set-up Dissemination and exploitation plan					X
	4.2 Design of project visual identity					X
	4.3 Design and setup of project web site					X
	4.4 Raising awareness for ADA		X			
	4.5 Final Conference	X				
	WP5 Quality control and monitoring					
	Activity	0%-20%	20%-40%	40%-60%	60%-80%	80%-100%
	5.1 Defining plan for project quality control					X
	5.2 Defining metrics for ADA					X
	5.3 Internal project control and monitoring		X			
	5.4 External evaluation	X				
Prepared by:	Zoran Kalinić					
Date of reporting:	25.03.2020					

Note: Please add relevant attachments to this report (when applicable)

INTERNAL REPORT No. 1

Project partner	Vienna University of Economics and Business Administration (WU)
Reporting period	15.11.2018 – 15.03.2020
Description of all activities realised by project partner during reporting period and achieved results:	In the first project year, together with other EU project partners, ADA team members from WU took participation in preparation of the Analysis of best practice at EU partner universities. In this report, WU presented its two-year Master program in Data Science with its structure and explanation of main modules. As a part of the activities within WP1, WU project members organized a study visit to Vienna University of Economics and Business Administration, in March 10-12, 2020. Although it was well and timely prepared, due to Corona pandemia outbreak and strict measures of Austrian government published on the first day of the visit, some planned event had to be cancelled. On the first day of the visit, at the opening session, welcome speeches were given by prof. Ronald Hochreiter (Project coordinator at Vienna University of Economics and Business Administration) and ADA project coordinator, prof. Mirko Savic. After that, Steering Committee meeting, followed by Local Committee meeting of Serbian partners, was organized. The main topics were Financial reporting for the period 15/11/2018-30/03/2020, preparations for Interim Report, information about public procurement, reports from Serbian partners about implementation of ADA master programs, organization of the next meetings in Belgrade and Cergy, WP5 Quality Control and Monitoring: Presentation of Quality and Assessment Plan, WP5 Quality Control and Monitoring: Presentation of Quality Indicators, etc. (more details may be found in Agenda and Report on study visit). The meeting was followed by

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the presentations about real-life experience related to implementation of artificial intelligence and data science as in companies across Austria and Europe. Prof. Hochreiter presented an introduction to artificial intelligence, machine learning and data science, explaining "two shades of artificial intelligence", and what artificial intelligence really is. He also gave a presentation on feature engineering based on examples from companies, such as AI recruiting tool for multinational companies, consultants and startups in the realm of AI, overpromising and under-developing of AI, etc. In the evening, ADA project team had a dinner where discussion about various topics related to business analytics continued in the nice environment of typical Austrian restaurant.

Second day of the visit, since all lectures were cancelled by government decision because of Corona virus, the presentations scheduled by the Agenda of the visit had to be cancelled, too. Anyway, WU representative organized extensive tour around campus of Vienna University of Economics and Business Administration, during which the guests had unique opportunity to enter some premises that are usually closed during regular working days and they visited several university buildings, and saw WU's amphitheatres, libraries, classrooms, Business Academy, etc.

Finally, since presentations for the third day were also cancelled, ADA project partners held an ad-hoc meeting dedicated to recent events related to Corona virus pandemic, during which they discussed various issues and problems related to lockdown during pandemic outbreak, unfinished activities and tasks related to submission of technical interim report at the middle of the project.

As a part of the activities in WP6: Project Management, WU representatives participated in the kick-off meeting held in Novi Sad, and Steering Committee meetings held in Cergy and Rome.

Have you experienced any problems or deviations from the plan and schedule (and which)? (explanations for tasks not fully implemented, critical objectives not fully achieved and/or not being on schedule. Explanation of the impact on other tasks, available resources and the overall planning)	As previously stated, the main problem experienced during reporting period was Corona virus outbreak. The visit to WU was scheduled several months in advance, and it was very hard to cancel it in the last moment, as it seemed to be possible to organize it, despite the threat. But, on the very first day of the visit, Austrian government issued strict and obligatory measures, that caused the cancellation of some of the scheduled presentation.
Measures undertaken to overcome problems and shortcomings:	Acting in presented circumstances, WU representatives made some changes in the Agenda of the visit, and organized what could be organized for the visitors. In addition, they are open to online communication and further explanation and answers to all questions related to WU and its master program in Data Science.
Suggestions for other partners and for future period (if any):	No
Activities planned for the following reporting period:	In the next period, WU representatives will work on learning materials for the lectures they will give in Serbia, within the project and developed master courses. They will be focused on work online and communication with other ADA project members through e-mails, Skype, and social networks. Of course, further activities will strongly depend on the developments on Corona virus outbreak and national and EACEA decisions and recommendations.

Estimated degree of realisation of the WP activities (from LFM matrix of project proposal) for which project partner is responsible for (to be filled only by project partners leading work package):	WP					
	Activity	0%-20%	20%-40%	40%-60%	60%-80%	80%-100%

Prepared by:	Laura Vana
Date of reporting:	14/04/2020

Note: Please add relevant attachments to this report (when applicable)

INTERNAL REPORT No. 1

Project partner	Graduate School in Computer Science and Mathematics Engineering (EISTI)
Reporting period	15.11.2018 – 15.03.2020
Description of all activities realised by project partner during reporting period and achieved results:	During reporting period, the ADA team members from EISTI participated in preparation of the Analysis of best practice at EU partner universities (published as a Report at project website), in which they have explained the structure and courses of the master study program in Advanced Data Exploration, Data Analytics and Optimization, taught at this institution.

In addition, EISTI project team organised a study visit for all project partners, in March 18-20, 2019. First day of the meeting, after welcoming speeches by the host representatives, was dedicated to Steering Committee meeting, joined with Local Committee meeting of Serbian partners. At this meeting, the topic were report about meeting in Brussels (possibilities of synergies with other projects), information about partnership agreements, action plan for the first year and achieved goals, inclusion of visiting professors from EU institutions at ADA master program, staff mobility between partners through Erasmus+ program, choice of project motto by voting, development of Facebook page, information about deadline for the 1st reporting period, organization of next study visit to CERTH, Thessaloniki, activities in the future period, and discussion.

During second day of the visit, project partners had the opportunity to see the presentations of companies that are working with EISTI. First presentation was about JEMS group, with special focus on the business intelligence and data visualization. Second presentation was about Teradata company, with focus on big data and advanced analytics. Later on, after the coffee break, second part of the session was dedicated to Ecxilys company, where company representative has spoken |

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	about project management topics. Afterwards, Smartteem company was presented, where main topic was elastic search and kibana solution. Third part of the session was dedicated to attending the lecture to students of EISTI. Lecture was given by representative of Teradata company and it was dedicated to presentation of students' work in machine learning. The project team members also had an opportunity to visit premises of EISTI (classrooms, laboratories, etc.), and to see Bloomberg room and Virtual wall at EISTI. Finally, third day of the visit was dedicated to the meeting of Serbian partners, where some specific issues, like public procurement of equipment and accreditation of study programs in Serbia were discussed. Second part, where all partners have participated, was dedicated to open discussion about next study visit to Thessaloniki, project tasks and activities, reporting, activities in future period, etc. Representatives of EISTI also took active part in project management activities and participated in the kick-off meeting held in Novi Sad, and SC meetings held in Cergy, Thessaloniki, Rome and Vienna.
Have you experienced any problems or deviations from the plan and schedule (and which)? (explanations for tasks not fully implemented, critical objectives not fully achieved and/or not being on schedule. Explanation of the impact on other tasks, available resources and the overall planning)	No
Measures undertaken to overcome problems and shortcomings:	N/A
Suggestions for other partners and for future period (if any):	N/A

Activities planned for the following reporting period:	For the following period, the EISTI project team members will continue to work on preparation of teaching materials for the courses which they will teach at the Serbian universities within the project. In addition, they will start preparation of the next study visit to EISTI, within project activity 2.4. Although planned for the next reporting period, due to COVID-19 pandemia, it is likely that this visit will be postponed for Autumn 2020.					
Estimated degree of realisation of the WP activities (from LFM matrix of project proposal) for which project partner is responsible for (to be filled only by project partners leading work package):	WP					
	Activity	0%-20%	20%-40%	40%-60%	60%-80%	80%-100%
Prepared by:	Maria Malek					
Date of reporting:	11/04/2020					

Note: Please add relevant attachments to this report (when applicable)

INTERNAL REPORT No. 1

Project partner	University of Rome Tor Vergata (UNITOV)
Reporting period	15.11.2018-15.03.2020
Description of all activities realised by project partner during reporting period and achieved results:	The Master in Big Data in Business from the University of Rome Tor Vergata (Italy) has contributed in different ways in supporting the ADA project. Members of the teaching staff have attended the Kick off meeting in Novi Sad in November 2018 and the meeting in Cergy in March 2019. The administrative staff of the Master programme, in cooperation with the teaching staff has organized the meeting in Rome in November 2019. During the meeting, the coordinator of the master programme and other teachers stressed the importance of Data Analysis and they showed how an interdisciplinary course structure which involves classes in statistics, economics, computer science, engineering and management can be helpful in creating new master programmes in Big Data. They emphasized how another element of success of a master in Big Data is related to agreements with partner companies. The experiment was conducted on with the master in Big Data in Business at the University of Tor Vergata. Firms cooperate with the master offering scholarships for an amount equal to the registration fee. Students enrolled benefit of the scholarships offered by the partner companies and from internship opportunities assigned on the basis of their academic performance. Another important element is the extensive use of practical classes and the use of machines and specific software as MatLab, R, Python, Hadoop, Java, Multichain, C, among others. At the end of the classes students have to be involved in projects group and assignments aimed at assessing the capabilities of analyzing data, as well as the ability to communicate the relevant findings. All these elements were useful to the participants when developing or improving master programmes at their own institutions.

Have you experienced any problems or deviations from the plan and schedule (and which)? (explanations for tasks not fully implemented, critical objectives not fully achieved and/or not being on schedule. Explanation of the impact on other tasks, available resources and the overall planning)	No, we did not experience any difficulty. However delays due to the increase of the standard work load have occurred.
Measures undertaken to overcome problems and shortcomings:	-
Suggestions for other partners and for future period (if any):	Interested partners may attend some classes of the Master in Big Data in Business starting in April 2020 as a training session. We are testing an online platform (Microsoft Teams) for distance learning with guest accounts to access the classes.
Activities planned for the following reporting period:	Financial reporting for the upcoming period. Opportunities for improving internationalization of Serbian study programs through the exchange of teaching staff: Planning the exchange of visiting professors from EU. Next study visits – to be scheduled after Corona virus pandemia. Involvement in shared updates about the stages of implementation of Serbian ADA master degrees. Availability for future activities and management of work packages.

Estimated degree of realisation of the WP activities (from LFM matrix of project proposal) for which project partner is responsible for (to be filled only by project partners leading work package):

WP

Activity	0%-20%	20%-40%	40%-60%	60%-80%	80%-100%

Prepared by:	Federica Corrente
Date of reporting:	06/04/2020

Note: Please add relevant attachments to this report (when applicable)

INTERNAL REPORT No. 1

Project partner	Centre for Research and Technology Hellas (CERTH)
Reporting period	15.11.2018 – 15.03.2020
Description of all activities realised by project partner during reporting period and achieved results:	1. Participation in preparation of the Analysis of best practice at EU partner universities (Report entitled "Analysis of best practice at EU partner Universities") 2. Participation in the kick-off meeting in Novi Sad and Steering committee meetings Cergy and Rome. 3. Organization of the study visit at CERTH in Thessaloniki. During the part of the first day of the study visit the ADA project members had the opportunity to follow the launch of the first Summer School in Digital Supply Chains & Logistics Management and the inauguration of the Competence Center for Business & Logistics Challenges (CCLBC). During the study visit, in addition to the visit to the labs of CERTH at Thessaloniki, including the Thessaloniki Smart Mobility Living Lab premises in Hellenic Institute of Transport, where they had the opportunity to be informed about the data collected from Living Lab's eco system via different types of sources and how they are transformed into useful applications and services for the end user. Afterwards, practical case studies from CERTH-HIT experience in passenger transport and freight transport were presented to the ADA project partners.

Have you experienced any problems or deviations from the plan and schedule (and which)? (explanations for tasks not fully implemented, critical objectives not fully achieved and/or not being on schedule. Explanation of the impact on other tasks, available resources and the overall planning)	No
Measures undertaken to overcome problems and shortcomings:	N/A
Suggestions for other partners and for future period (if any):	N/A
Activities planned for the following reporting period:	Continue with the preparations of the teaching material and planning the teaching lessons to be executed by the CERTH participants.

Estimated degree of realisation of the WP activities (from LFM matrix of project proposal) for which project partner is responsible for (to be filled only by project partners leading work package):	WP					
	Activity	0%-20%	20%-40%	40%-60%	60%-80%	80%-100%

Prepared by:	Josep Maria Salanova Grau
Date of reporting:	04/04/2020

Note: Please add relevant attachments to this report (when applicable)

INTERNAL REPORT No. 1

Project partner	Serbian Association of Managers (SAM)
Reporting period	15.11.2018-15.03.2020

Description of all activities realised by project partner during reporting period and achieved results:	Participation: SAM participated in following meetings and study tours:
	- Kick off meeting at the University of Novi Sad on 26-27th November 2018
	- EISTI in Cergy, France from 17th March to 21st March.
	- University of Thessaloniki from 17th March to 21st March, where SAM Executive Director presented draft of the Survey on Data Analytics
	- University TOR Vergata, Rome, from 18th till 20th November 2019
	- Wien University, Vienna, from March 10-12 2020
	
	Public promotion of the project via electronic and social media - Articles about ADA project were placed:
	   o On SAM web site
	     ▪ 18/03/2019
	     ▪ 08/05/2019
	     ▪ 26/11/2019
	
	   o On SAM official Instagram profile:
	     ▪ 05/04/2019
	     ▪ 09/05/2019
	
	   o On SAM official Linkedin profile:
	     ▪ 05/10/2019
	   o Executive Director of SAM mentioned ADA project in her interview on N1 television on 04/06/2019
	
	In this period key activities for SAM were conducting a research among Serbian companies on their view on Data Analytics in Business and its present and future importance for business. The survey is organized in two phases.

| | The first phase was a quantitative survey conducted on a sample of companies, SAM members with aim to identify the companies' development stage and understand how data scientists may fit into the current organizational structure. Survey was sent to members of SAM, of which 46 fulfilled whole questionnaire and 41 of them partially. There was 4 parts of the survey: demographic section, companies' needs regarding Data Scientist area of work, Description of the Data Scientist Position and expectations from that position within the company, and set of key skills.

The second phase was a semi-structured discussion with data scientists (or their immediate superiors), which was aimed at getting more in-depth findings. These findings provided have the full picture how far are companies with the integration of Data Scientists in their organizational structures. This research was conducted in partnership with the Data-Do, a company which specializes in the application of business data to ensure external and internal monetization.

Also, research findings were presented to the participants on separate event organized in the premises of Serbian Association of Managers on May 8th. |
|---|---|
| Have you experienced any problems or deviations from the plan and schedule (and which)? (explanations for tasks not fully implemented, critical objectives not fully achieved and/or not being on schedule. Explanation of the impact on other tasks, available resources and the overall planning) | No |

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Measures undertaken to overcome problems and shortcomings:	N/A					
Suggestions for other partners and for future period (if any):	None					
Activities planned for the following reporting period:	Additional promotion of the project in coordination with other partners.					

Estimated degree of realisation of the WP activities (from LFM matrix of project proposal) for which project partner is responsible for (to be filled only by project partners leading work package):	WP					
	Activity	0%-20%	20%-40%	40%-60%	60%-80%	80%-100%

Prepared by:	Jelena Bulatovic, SAM
Date of reporting:	March 30th, 2020

Note: Please add relevant attachments to this report (when applicable)