AI4PPP

Artificial Intelligence for People, Planet, and Profit

Joint Report

Gap Analysis: Understanding the AI potential

Contents

List of tables

List of figures

1. Introduction

Artificial intelligence (AI) is an area of strategic importance and a key driver of economic development. Artificial intelligence gives machines and systems the capability to analyse their environment and make decisions with some degree of autonomy to achieve specific goals. Project AI for People, Planet and Profit stimulates innovative learning and teaching practices to enrich an inclusive European approach to AI education for all and especially for non-ICT experts.

In order to gather information on the state of implementation of AI technology, secondary and primary research were conducted at each of the partners' specific country (Croatia, Slovenia and Spain). These studies were conducted by each partner individually. Based on these studies, each partner prepared a National Report. All National Reports received from the partners formed the basis for the preparation of this Joint Report.

The Joint Report includes:

1. Secondary research conducted to analyse a selection of MBA programmes in three countries.
2. Primary research conducted with AI experts and higher-level managers in non-IT companies from different industries (for example, managers in tourism, agriculture, education, manufacturing, health, etc.).

The main research objectives were:

1. identify existing MBA education programmes with special attention to the inclusion of AI and the topic of digital transformation in general
2. identify the market need for AI-related knowledge for professionals in leadership positions (other than IT) and the skills required, after evaluating experiences and examples from their daily lives.

The achieved results of the gap analysis will provide the background for designing and structuring syllabi, educational materials and pilot cases that are envisaged within PR2, PR3, PR4, PR5 and PR6 of the project.

2. Secondary research of the MBA study programmes

As part of the secondary research, the project partners analysed the MBA programmes available on the market. This research had two main objectives. First, to identify content in MBA programmes that contain AI-related elements. Second, to categorize the information used.

The basis for the secondary research was the analysis of official documents, websites, and databases of recognized schools and universities in the partner countries. Collected data were categorized according to several characteristics:

1. what types of MBA programmes are offered;
2. duration of MBA programmes;
3. the general learning outcomes of each programme, especially those related to the topic of digital transformation;
4. learning outcomes related to the use of AI technology.

In this part of the secondary research, the state of the art of MBA programmes was studied and identified. The documents analysed are the curricula and learning outcomes in each country of the project partners.

Thanks to the analysis, it was possible to determine which type of MBA programmes are most widespread in each country and with which skills future managers will graduate from their MBA studies. The project partners analysed the main MBA programmes offered in their countries and selected those that deserve special attention because of their popularity, the status of the universities, and the offered content. They then went on to describe and compare each programme.

These programmes differ in length, the number of EQF points, the languages in which classes take place, the location where classes take place (live or online), the length of work experience required to begin the programme, and the number and type of subject. However, they have many similarities, especially in terms of knowledge and subjects.

Project partners rated the programmes in the following numbers:

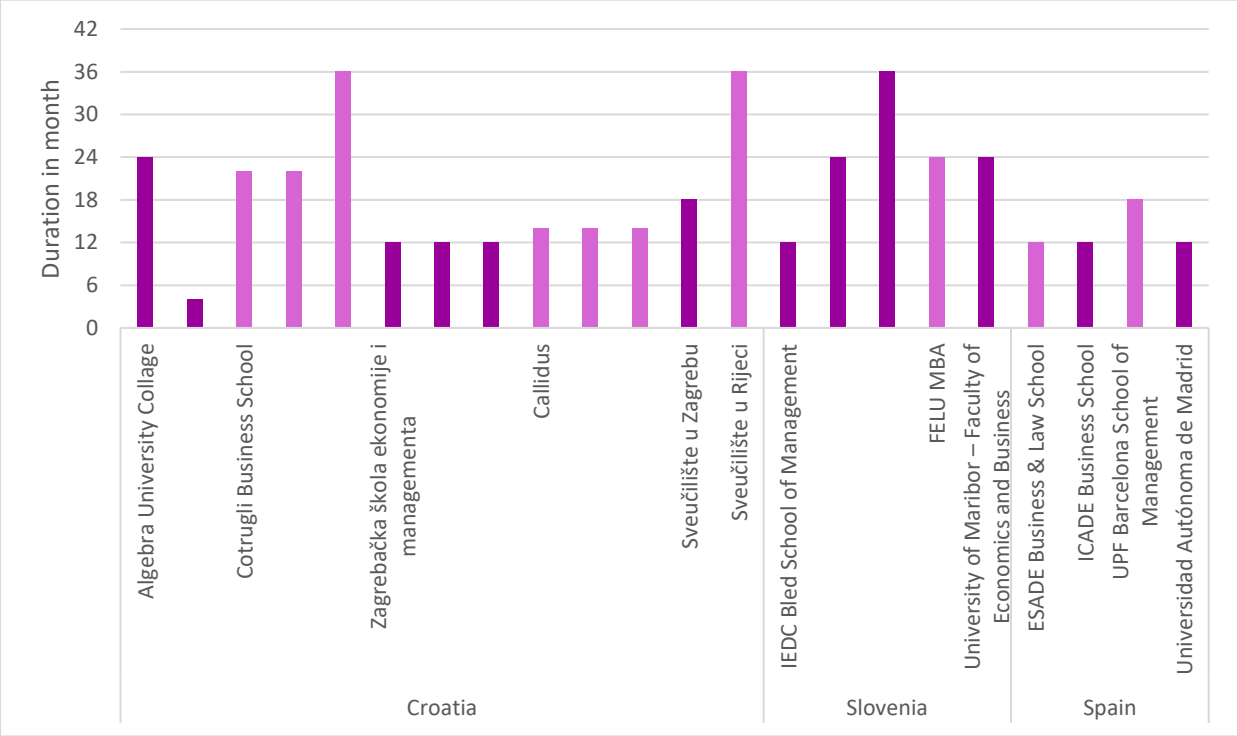
1. Algebra University College – 13 different MBA programmes from 6 different educational institutions,
2. Faculty of Applied Social Studies in Nova Gorica – 5 different programmes from 3 different educational institutions,

3. University of Alcalá – 4 different programmes from 4 different educational institutions.

Most MBA programmes are taught in English. The exception is one university in Croatia that offers courses in another foreign language – German. Two major Croatian universities offer courses in the local language. MBA programmes in Spain are mostly taught in Spanish. One of the universities offers a choice between English and Spanish. The exception is a private university where courses are taught only in English.

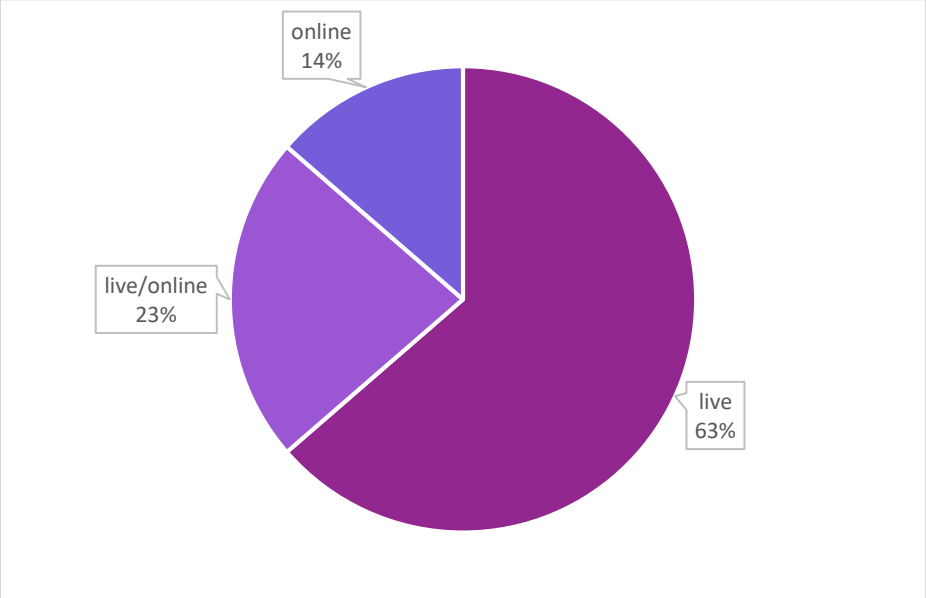
From the results it can be concluded that the duration of all MBA programmes range between 12 and 36 months. The exception is the mini-MBA, which lasts 4 months. The detailed results are shown in the figure below.

Figure 1: Duration of MBA programmes in months



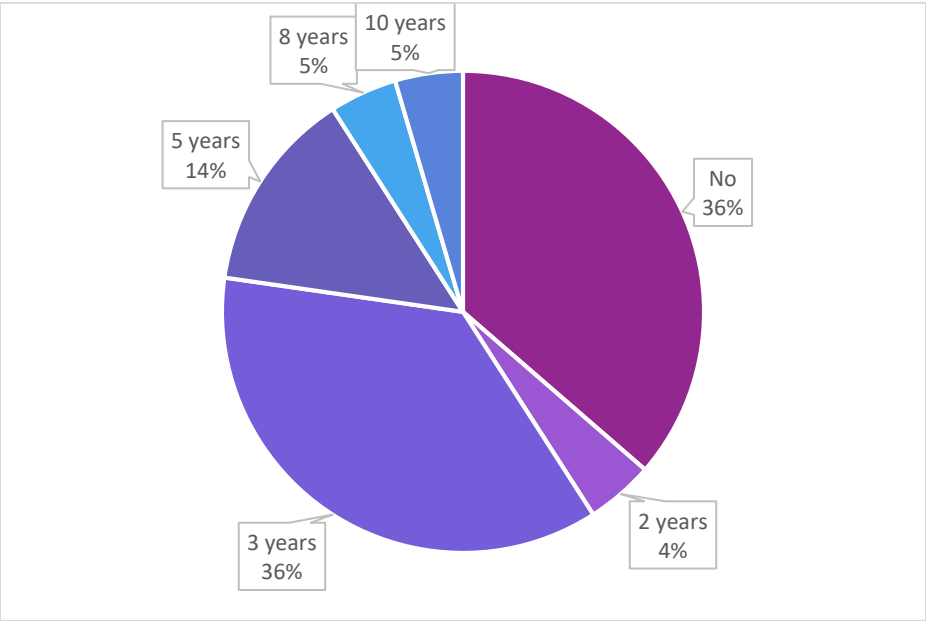
In the vast majority of cases, after analysing 14 programmes, classes are held in person. Five (5) educational institutions offer online classes when needed (in most cases this was due to the Covid 19 pandemic), and only one of the universities in Croatia offer classes entirely online.

Figure 2: The way classes are held



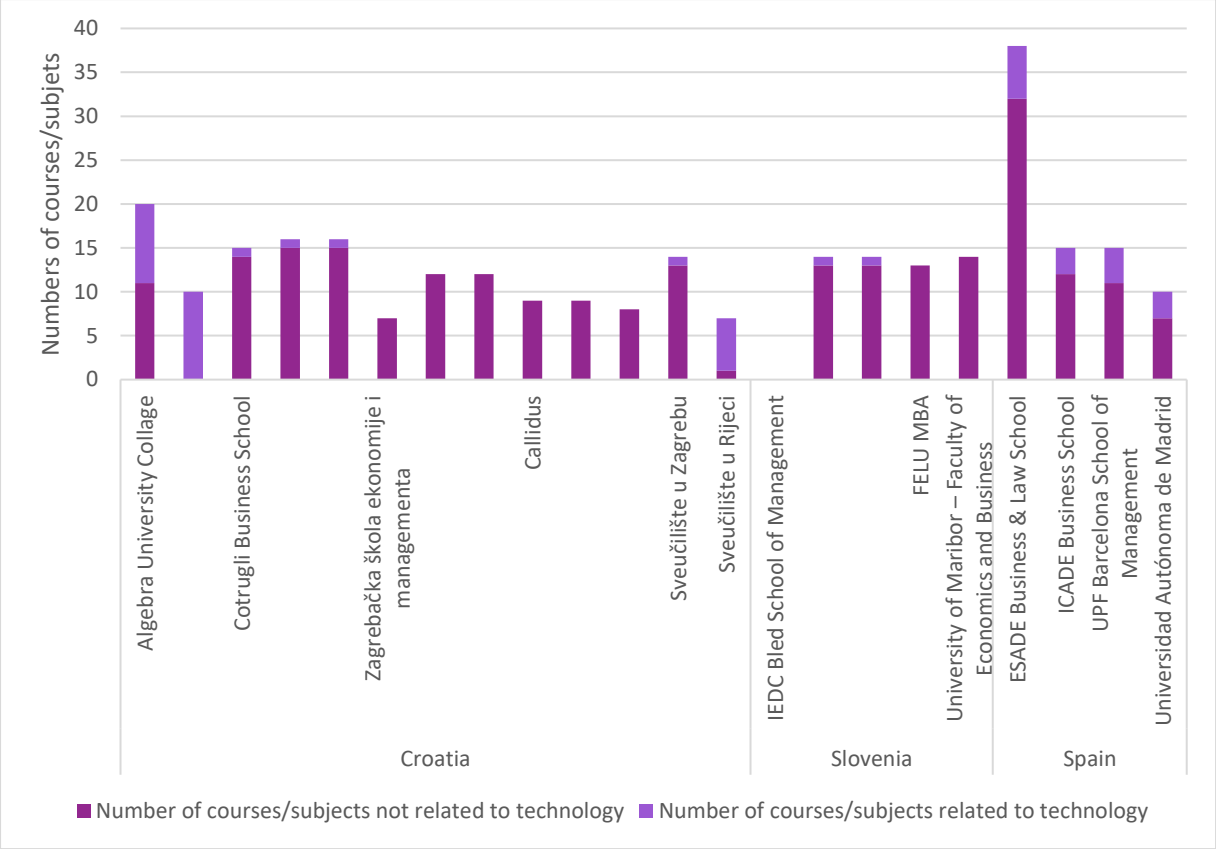
Depending on the MBA programme, some work experience may or may not be required as well. Most universities indicate that this experience should be related to holding a management position in a company. Only 8 programmes do not require prior experience. For 12 programmes, 2 to 5 years of work experience is required.

Figure 3: Professional experience required



Spain is the only country with technology-related content in all MBA programmes. It is worth noting that in three programmes offered in Croatia, more than half of the subjects/courses are related to modern technologies (including those offered by Algebra University College). No less than 14 of all MBA programmes have none or only one course/subject related to modern technologies.

Figure 4: Number of courses/subjects both related to and not related to technology



Unfortunately, none of the MBA programmes described (with the exception of 2) include content related to the use of AI-based technology. The exceptions already mentioned are the Mini-MBA, a short 4-month MBA course offered by Algebra University College and ESADE Business & Law School.

A total of 22 different MBA programmes from 3 countries, specifically Croatia, Slovenia, and Spain, were analysed. The vast majority of programmes last between 12 and 36 months. Moreover, most of the programmes take place live in person and the language of classes is mostly English. More than half of the programmes do not contain subjects/courses related to modern technologies, and

only 2 programmes (one in Croatia and one in Spain) contain content related to AI-based technologies.

Table 1:MBA programmes in Croatia, Slovenia and Spain

Country	Organization	Name of MBA programme	Duration in month	Lang uage	Live/ online	Experience	No. of courses /subjects	No. of courses/ subjects not related to technology	No. of courses/ subjects related to technology
Croatia	Algebra University Collage	e-Leadership MBA	24	ENG	L	5 years	20	11	9
		Mini MBA 4IR	4	HR	L/O	No	10	0	10
	Cotrugli Business School	International MBA	22	ENG	L	3 years	15	14	1
		Executive MBA	22	ENG	L	5 years	16	15	1
		Chief Executive MBA	36	ENG	L	8 years	16	15	1
	Zagrebačka škola ekonomije i managementa	Graduate MBA program	12	ENG	L/O	No	7	7	0
		Executive MBA	12	ENG	L/O	3 years	12	12	0
		Global Executive MBA	12	ENG	L/O	3 years	12	12	0
	Callidus	MBA – Business Management	14	ENG/ GER	O	No	9	9	0
		MBA Finance	14	ENG/ GER	O	3 years	9	9	0
		MBA Project & Process Management	14	ENG/ GER	O	3 years	8	8	0
	Sveučilište u Zagrebu	Postgraduate specialist studies	18	HR	L	No	14	13	1

	Sveučilište u Rijeci	Postgraduate specialist studies	36	HR	L	2 years	7	1	6
Slovenia	IEDC Bled School of Management	One-Year Executive MBA Format	12	ENG	L	3 years		0	
		Two-Year Executive MBA Format	24	ENG	L	3 years	14	13	1
		Three-Year Executive MBA Format	36	ENG	L	no	14	13	1
	FELU MBA	FELU MBA	24	ENG	L	3 years	13	13	0
	University of Maribor – Faculty of Economics and Business	The 2nd-cycle study programme in Economic and business sciences	24	ENG	L	No	14	14	0
Spain	ESADE Business & Law School	Executive MBA	12	ENG	L/O	10 years	38	32	6
	ICADE Business School	Master's Degree in Business Administration	12	ENG/ SPA	L	No	15	12	3
	UPF Barcelona School of Management	Master's Degree in Business Administration and Management	18	SPA	L	5 years	15	11	4
	Universidad Autónoma de Madrid	Master's Degree in Business Administration (MBA)	12	SPA	L	No	10	7	3

3. Primary research to understand AI market

3.1. Interview 1

Background and profile of interviewee

As part of the primary research, AI experts were interviewed. 3 experts from each country (Croatia, Slovenia and Spain) took part in the interviews, 9 people in total. Most of the interviewees have many years of experience in the field of AI like a high-level employees or company owners.

Most of them have education related to the field in which they are experts.

Basic Knowledge and Understanding

AI experts believe AI solutions can impact both the public and private sectors. New methods of processing data can make it possible to move things forward faster and enable new services and products. AI is particularly useful because it can analyse vast amounts of data and automate processes that are mundane tasks (e.g., classifying documents, managing administrative procedures), and free up employees and civil servants for higher value tasks. Through data analytics, it is possible to create certain formulas and algorithms that we would not see without this technology. Participants pointed out that it is possible to solve problems that would be impossible to solve without artificial intelligence.

Assessment of the use of AI in business and the public sector

The use of AI in the public and private sectors is similar in all three countries:

1. Croatia: all participants indicated that the potential of AI is little used in the private sector and barely used in the public sector. In this regard, one participant noted that some private sectors are more open to AI solutions than others.
2. Slovenia: all participants have pointed that AI is not very used both business and public sectors. This is a consequence of the fact that it is overpriced, lack of funds, lack of staff that knows about AI and lack of awareness from the decision-makers.
3. Spain: AI has been limited to a few niche areas (e.g., fraud detection, customer segmentation, facial recognition, chatbots, etc.). Currently, there is a great interest in using AI for other applications, in the expectation that it will provide a competitive advantage in business and improve public services, while reducing costs through automation. Companies are starting to incorporate AI into their solutions to provide more accurate and competitive products. The Spanish Administration, Red.es, recently began using the RPA

solution to automate processes for the management of the Digital Kit program, which is expected to manage more than one million applications for financial aid.

The factors influencing the assessment of the use of AI potential in business and the public sectors were primarily:

1. public sector: slowness, mentality of people working there, lack of openness, solutions are ordered from large market players, procurement process is very complicated and lengthy, too few experts with knowledge of technological solutions, legal regulations, lack of training, unapplied attention to effectiveness and profitability of activities, and lack of motivation of employees.
2. business: overpriced, too few experts with knowledge of technological solutions, insufficient technological knowledge of people who make decisions in companies, expectations too low or too high, lack of people who could implement and monitor processes based on AI, limited number of AI solutions on the market, new technology that does not inspire confidence, legal regulations, lack of training, expectation of great results in a very short time, fear of change, lack of focus on the current priorities (short-term problems vs. long-term investment), siloed data and information in many organizations.

The Slovenian participants, also mentioned that people should start education from high-school level and to establish more focused study programmes at the university level, that will cover different aspects of AI. Meanwhile, universities downgrade the number of students, because of the lack of financing. One of the respondents mentioned that the legislation for AI in Slovenia is not clear. There is the need for discussions on how to put AI on the legal framework and the model developed by AI should not be discriminative or should not discriminate different categories of people.

Participants agreed that AI solutions are most commonly used in the following sectors:

1. Finance and banking
2. Marketing
3. Industry
4. Telecommunications
5. IT
6. Government (Spain)
7. Health

8. Security
9. Transportation

All participants agreed that AI technology can be applied to basically every sector in which we work with data due to the fact that AI can perform certain tasks faster than humans and with fewer errors.

Barriers to the implementation of AI solutions

According to the participants, the key factors that determine whether a particular company/institution decides to implement artificial intelligence-based solutions in its organization are the following: profit in the next years, return of investment, motivation, time the product gets to the market and quality of the product, implementation of change, unwillingness to focus on AI solutions, lack of understanding by decision makers of the benefits AI can bring, knowledge of AI in theory, not in practice.

When asked about barriers to implementing AI-based solutions in the private public sector, participants responded: insufficient understanding of the technology, lack of people with knowledge and skills to implement these solutions in organizations, quality and quantity of data in organizations and institutions, high price of AI, lack of competent staff in the public sector and the rigid payment system in the public sector (Slovenia), access to data, the struggle of the public sector to incorporate talent and technology specialists (Spain), resistance to organizational change.

The participants from the interviews, pointed out that the management board, decision makers, and high-level managers make the decisions about implementing AI solutions in companies. Spanish participants mention that initial or large AI initiatives are being initiated at top C-level management (strategic action) while small and medium AI projects are being handled directly by the department managers or dedicated AI department (if they exist).

There is a consensus between participants regarding the fact that the level of knowledge that high-level managers have of AI solutions that are available in the market is not high. They do not have the knowledge to understand the technical solutions that are needed to implement AI and do not understand those who understand AI. They pointed out that the global problem is the lack of people knowledgeable in artificial intelligence, especially among executives, and that training is needed in this area.

Course of the sales process

The sales process in each country seems to be very similar: it refers to specific customer needs and adjusting their offer or solution to meet that need. The most important thing is to discover how and why implement AI solutions in the company and to sell solutions mainly by identifying problems that can be solved thanks to the implementation of AI technology. At the same time, customers are often not aware that the problem exists at all until the possibility of improvement in a specific scope is indicated.

Among the factors that influence the achievement of the intended sales goals, the following was highlighted: marketing; presentation of good examples; being visible and networking; availability of internal resources; the customer's understanding of the specific technology; raising the overall project importance and awareness of AI; building confidence in the viability of the AI solution; and raising awareness of the practical impact on business users. The human factor was indicated as the most important.

In terms of sales standardization for AI-based solutions, the overall industry opinion is that while the sales process can be standardized to some extent, the implementation of AI use cases and associated analytical models must be based on the specific needs of the customer. Participants pointed out that when standardizing the sales process, it is important that it applies to the same type of industry.

There is a common consideration that a person who understands the sector and its needs should be responsible for selling AI solutions (e.g. marketing people). We received very similar answers when we asked about the characteristics and skills of the ideal person for this position. Everyone pointed out that it should be a person who works as a sales consultant and at the same time has knowledge of the solutions offered. The responsible person needs the technical knowledge to both understand and afterwards to sell it. Also, there is a need for marketing skills, accounting skills and communication skills.

Recommendations and assessment of needs

To increase the level of implementation and use of AI in the corporate sector, several activities should be considered and undertaken:

1. educating people about the technology at all levels, raising awareness of the technology and its potential uses,
2. explaining why applications that use artificial intelligence have more open data,
3. regulating (legally) the AI sector (Slovenia),
4. teaching people how artificial intelligence works,
5. developing degree programs exclusively for AI, at least at the graduate level,
6. conducting demonstration events for practical applications in all sectors and centers of excellence to attract and train talent,
7. explaining why applications that use artificial intelligence have more open data,
8. raising the awareness of artificial intelligence (and data-driven management) as a cross-cutting area in general education.

All participants agreed that raising awareness among executives about the opportunities and returns on investment of using AI can help increase turnover and increase the use of AI across the economy. Raising awareness in this way can be achieved by finding best practices and success stories from similar sectors and changing the way data is collected.

3.2. Focus group

Introduction

For the focus group there were selected interviewees with the following background profile:

1. Founder, director and co-owner of a private company AI, which deals with transcription technology for Slavic languages and has 4 employees (Croatia);
2. Co-owner of a private company that processes images through text in neural networks his company was the first in the world to perform image search (Croatia);
3. Researcher, co-founder of an SME, expertise in AI (Slovenia);
4. Employee of a SME, expertise in AI (Slovenia);
5. Manager (within a medium mompany focused on the AI and big data niche) who has been working in the AI sector for 10 years, especially in the part of real-time data processing for companies (Spain);
6. Coordinates a team of AI experts in a large company with has 5 years of experience in AI projects and has the technical knowledge to do MVP (Spain);
7. Manager with more than 40 years of experience in a medium and large company focused on the geographic information processing niche (Spain).;

The third participant from Croatia and Slovenia did not participate in the discussion.

Assessment of the use of AI in business and the public sector

When asked for an example of a successful implementation of an AI solution, they were very willing to share their experiences in this area:

1. “The most significant project he was able to implement with his company was AI related to the operation of the largest advertising portal in Croatia.”
2. A text processing, classification and extraction system for the named entities which are used in 9 countries (Croatia).
3. This particular company, they help people in making decisions in gardening, garden planning. They consider best practices on how to group vegetables, where to place them and schedule in time. Thus, AI offers the customers the best layout for the garden, nutritional vales, etc. Additionally, collaboration with a research institution was highlighted during the discussion (Slovenia).

4. An oil company implementing a predictive solution for the market and raw materials, image analysis to detect lost backpack in airports, petrol ship route prediction and anomaly detection and predictive maintenance (Spain).
5. The most recent award of a public contract for several highways in the U.S. of deep learning for image detection, especially for the monitoring of High-occupancy vehicle lanes (Spain).
6. Tools and services for image analysis and extraction for its customers, first approach is image classification and the other is pattern detection (Spain).

During the discussion, it was discovered that among the sectors of the economy which most often choose to implement AI solutions, the following were mentioned:

- IT,
- e-commerce, online sales,
- advertising,
- logistics,
- health,
- trading,
- financial,
- transportation,
- smart-agriculture – most used in research projects, rather than applied;
- tourism,
- military,
- fuel,
- public administration (Spain).

Barriers to the implementation of AI solutions

When asked what obstacles participants have encountered in implementing AI-based solutions in both the public and private sectors, participants pointed out:

1. the European Union made it very difficult to implement AI when it established GDPR requirements,
2. the lack of understanding of AI technology among entrepreneurs and that the public sector renders implementation impossible,

3. the presence of high expectations about AI and that it will do “magic”;
4. bigger and cheaper offers from companies such as Google, that can afford such solutions,
5. the necessary time to get from prototype to final product on the market,
6. expensive IT expertise,
7. lack of knowledge of AI and its possible applications and use cases,
8. complexity in explaining why the algorithm makes/takes certain decisions (due to neural network, deep learning, etc.) because customers are used to quantitative and tangible explanations,
9. AI implementation requires digitizing processes, and many companies discard its implementation due to a greater scope than expected: staff need to be relocated or trained, and in many cases data scientists need to be recruited, etc.
10. difficulties in differentiating between AI tools and solutions to the problems to be solved – simply using an AI algorithm does not solve the problem, but requires analysis, modelling, and adequate training for each case/company.

Even if there were several obstacles that the participants have encountered, they managed to overcome them. It was highlighted that these obstacles were able to be solved by explaining and teaching what AI does. Also, any kind of public-private collaboration is important and the new research law will help public institutions overcome the high price obstacle.

Course of the sales process

Participants pointed out that the most effective ways to sell AI solutions to companies is to present the benefits, offer concrete numbers and offer information how their businesses will be improved and spend less. Also, the most effective way to sell is to talk to people who need the solution so that they can present it to decision-makers and demonstrate its benefits. Because AI is virtually invisible to the users (it's not a tangible product), it's impossible to show what it really looks like. Spanish participants pointed out that there is no exact formula.

When we asked who were those that engaged in sales talks most frequently, the opinions were divided. Some participants said they have conversations with decision-makers (department heads, general managers), others with employees who need such a solution, and others with people who work with numbers and data. In terms of AI knowledge, the managers in charge of finding and implementing AI solutions usually lack basic knowledge and mix concepts because it is still an incipient technology. Moreover, with the lack of knowledge, it translates into more

shortcomings in the specifications, in the solutions, and in the requirements. Sometimes a company that knows what AI is, actually is interested in implementing it in a particular department, but their expectations do not always match reality. At the same time, they acknowledge that it is easier to sell AI solutions to companies that have at least a minimal understanding of the technology.

Recommendations and closure

To accelerate the deployment of AI-based solutions, a cultural and educational transformation must take place in society and in companies.

The number of implemented AI solutions in the private and public sector may be increased with the help of several steps, as participants mentioned the following:

1. educating people about the possibilities of AI;
2. getting people aquatinted with what AI can do;
3. conducting bilateral projects between university and companies (national or European), even if the AI solution does not go into the market, the company will benefit a lot from the experience;
4. adding more courses on university levels, including interdisciplinary programmes incorporating people with practical training in the fields of AI, both at the management and operational levels.

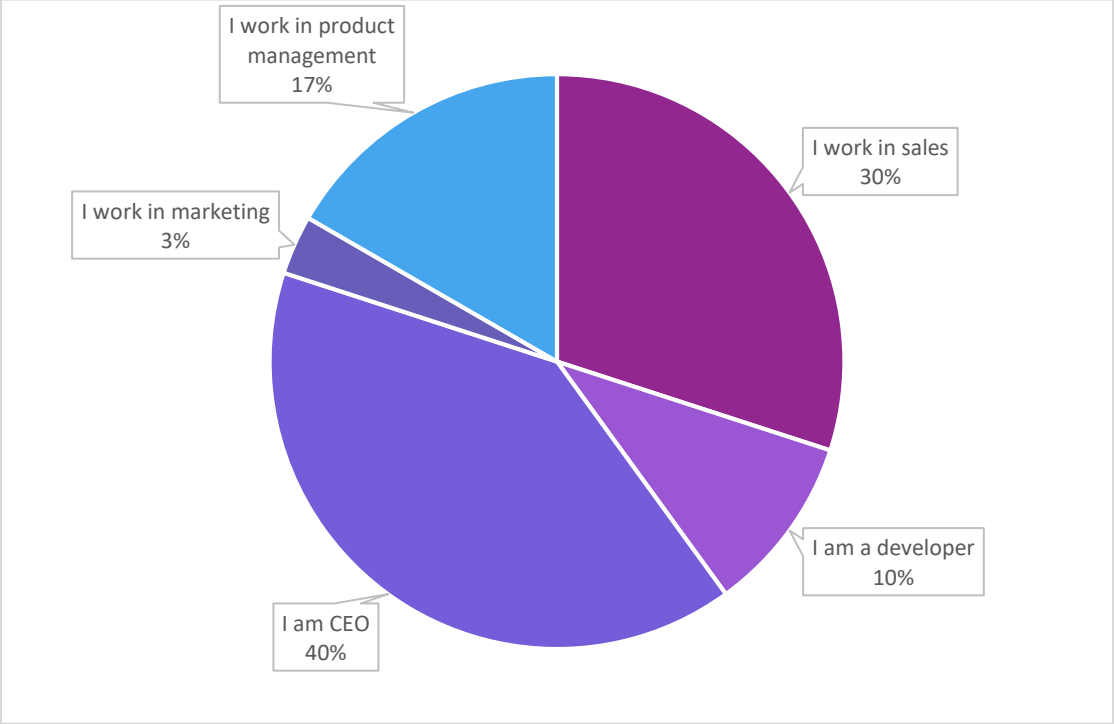
All participants agreed that educating managers on what AI means across a variety of industries would certainly help grow up-sells of AI solutions.

3.3. Online survey

One of the elements of the research conducted by project partners included a survey of IT sector specialists. The survey was conducted using an online survey tool – such as the charge-free Google Form etc. – and it was available in all partners' languages. Partners translated the survey to their national languages and made any necessary adaptations based on their national context but without changing the total number of questions, their meaning or the available responses to choose from. The survey results are presented below.

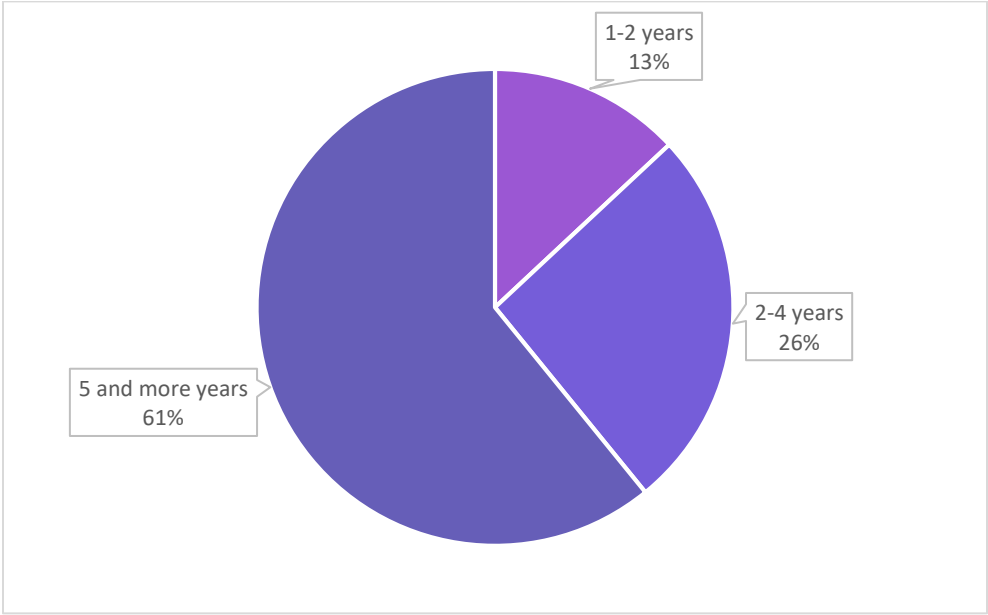
Most of the survey respondents are people who are CEOs of companies that provide AI services (40%) or sell AI-based services (30%).

Figure 5: Role in the organization



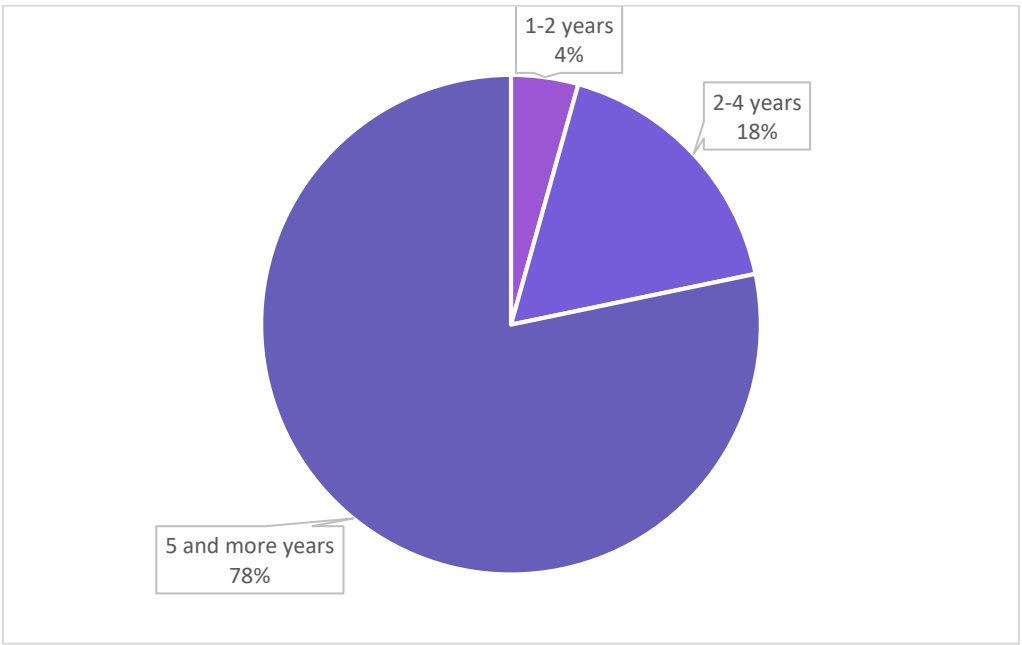
Most of them have many years of experience in the AI industry – more than 5 years (61%).

Figure 6: Time of work in the AI industry



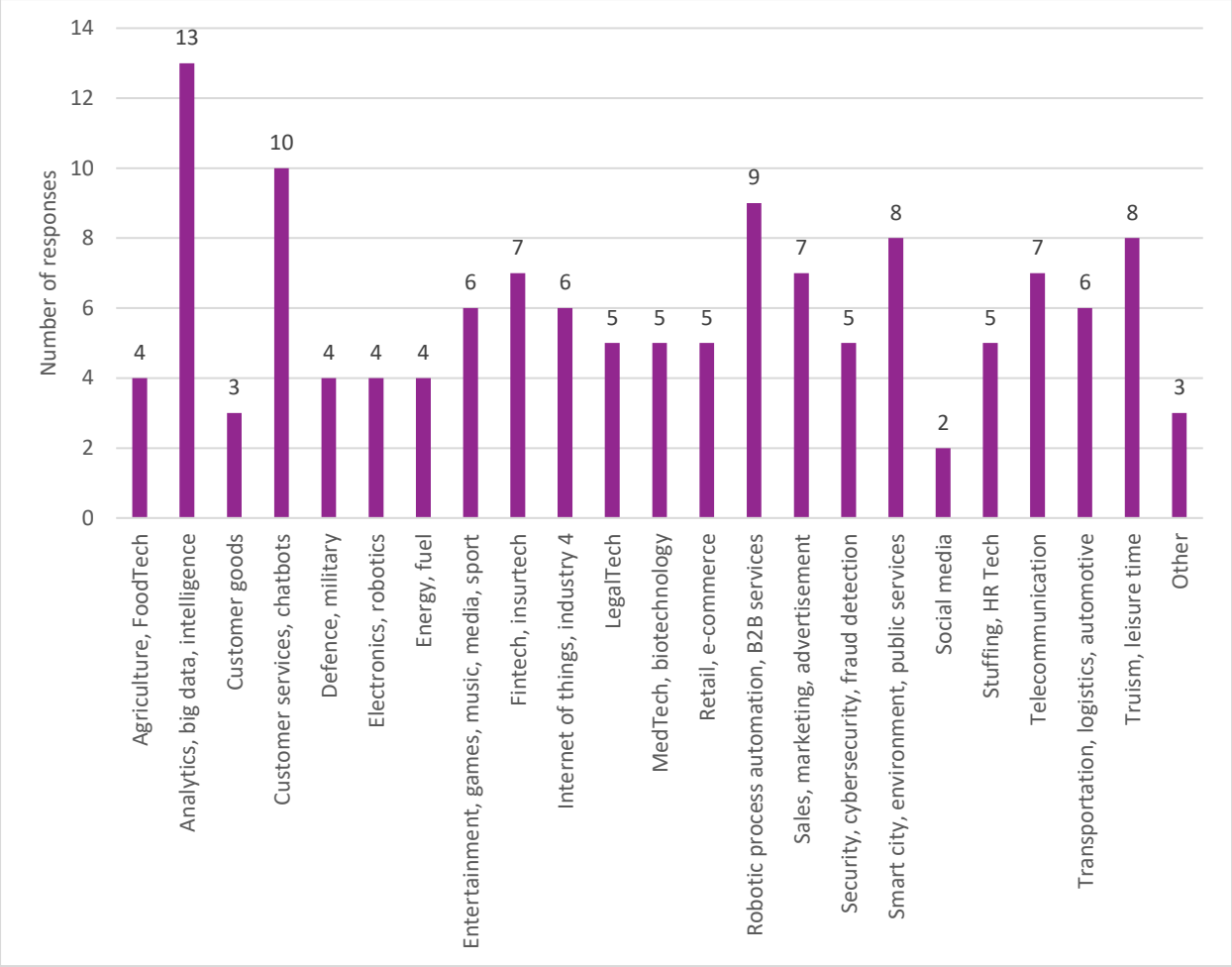
The vast majority of participants are employees or owners of companies involved in AI technology and have been in the market for more than 5 years.

Figure 7: The company's operating time on the market



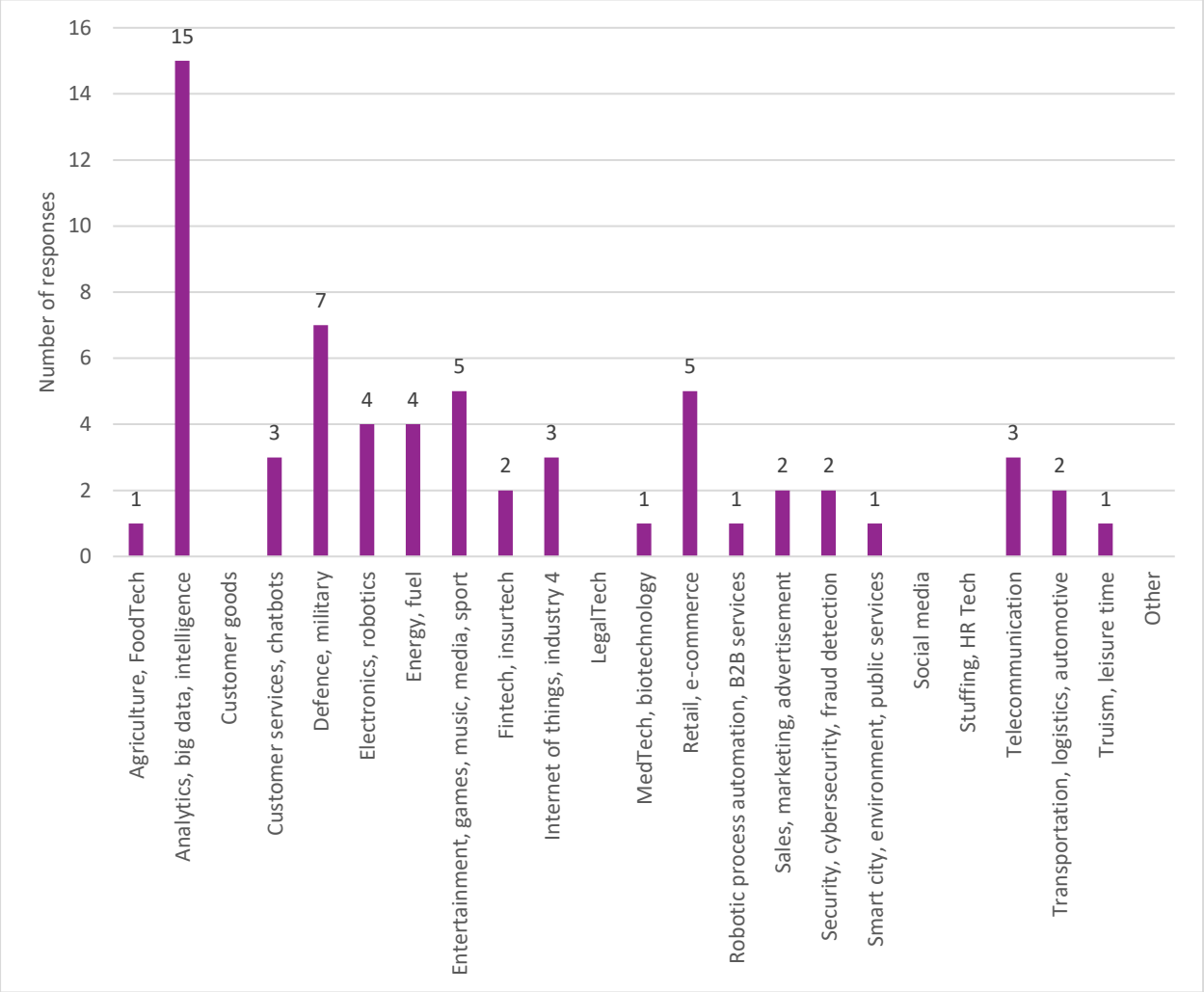
Respondents indicated that they most often offer their solutions in the following industries: Analytics, big data, intelligence; customer services, chatbots; robotic process automation, B2B service, smart city, environment, public services and transportation, logistics, and the automotive sector.

Figure 8: Industries for which solutions are developed



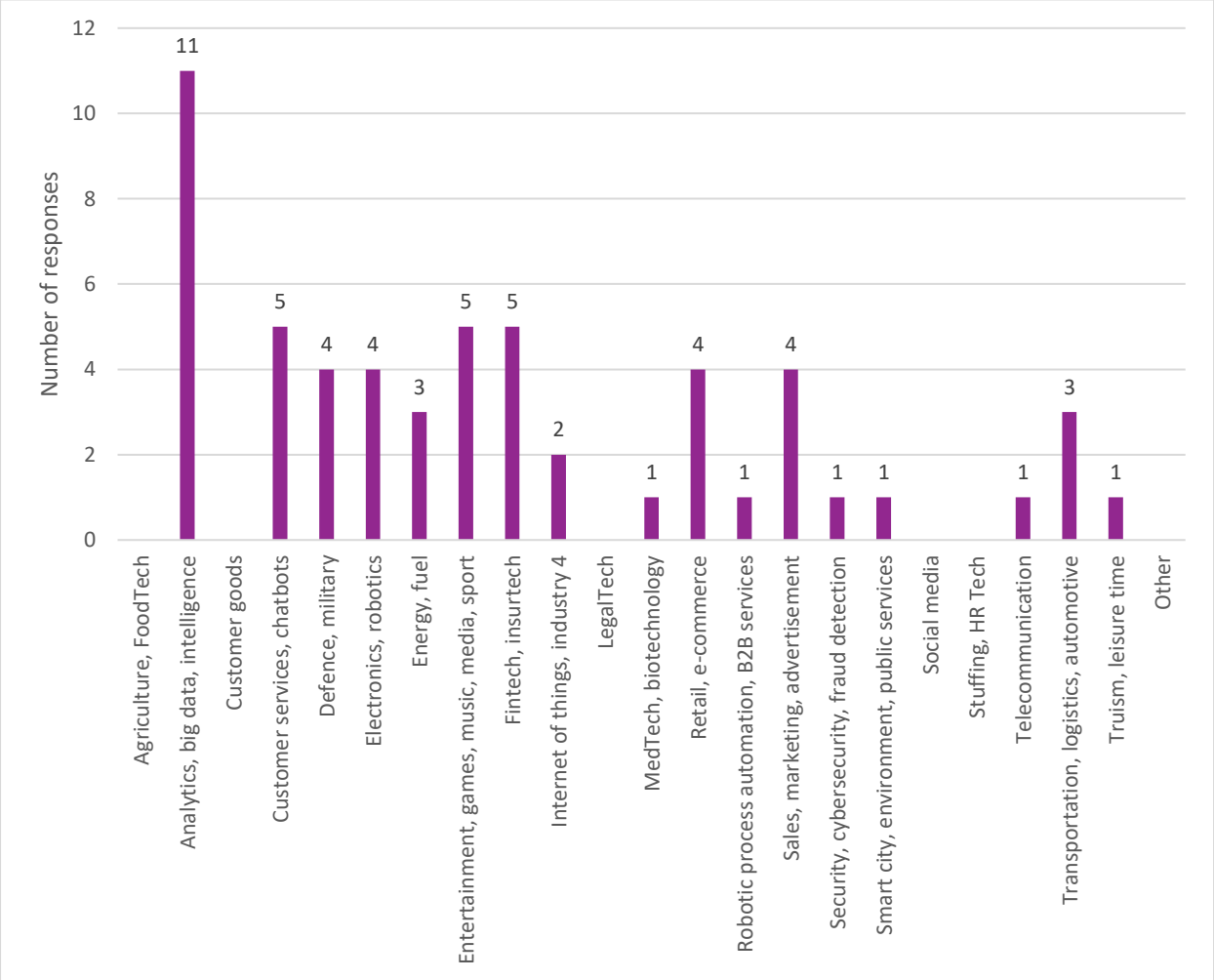
Referring to the sale of AI solutions from which industries generate the most profit, results are as follows: Analytics, big data, intelligence; defence, military; entertainment, gaming, music, media and sports and retail; and e-commerce.

Figure 9: Industries in which selling AI solutions generates the most profits



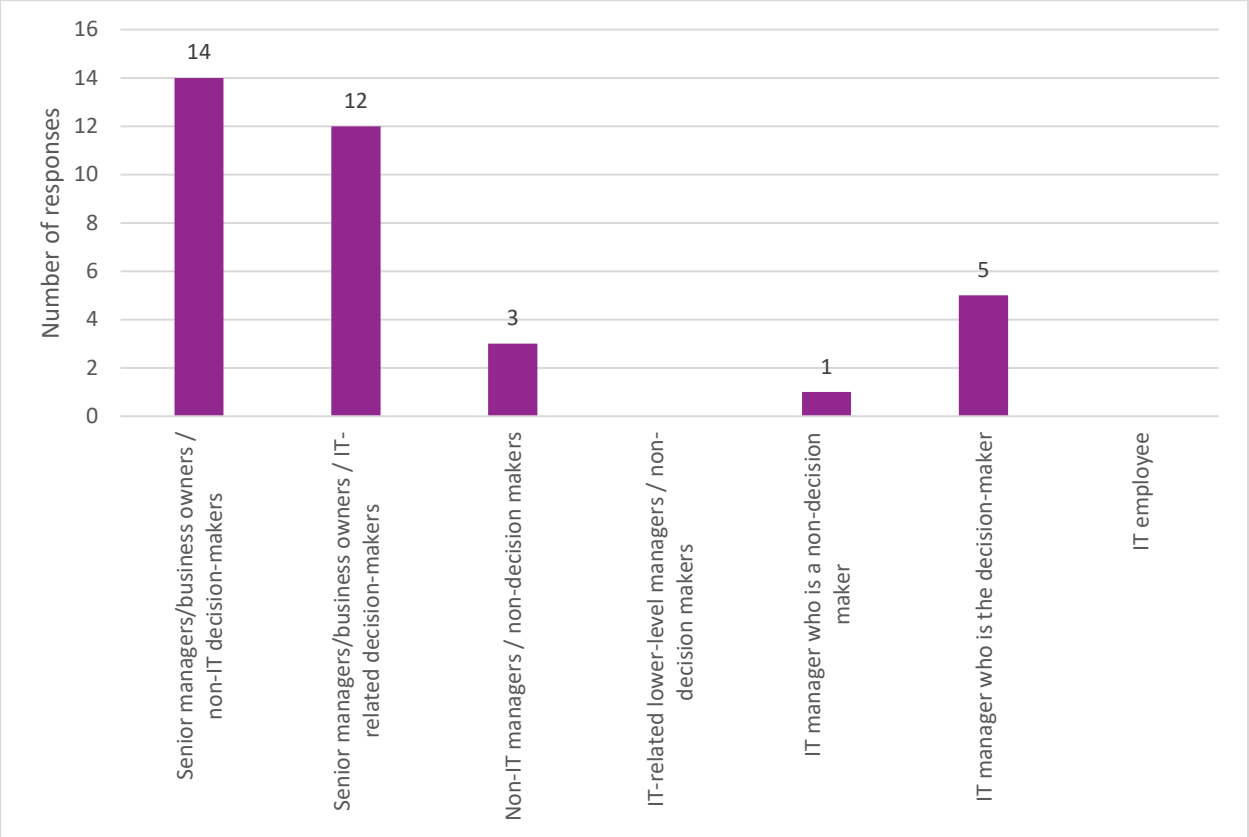
According to the respondents, the sectors that are responding the best and the fastest to the need to implement AI-based solutions are the following: Analytics, big data, intelligence; entertainment, games, music, media, sport; Fintech, insurtech; customer services; and chatbots.

Figure 10: Sectors that best respond to AI solutions implementation proposals



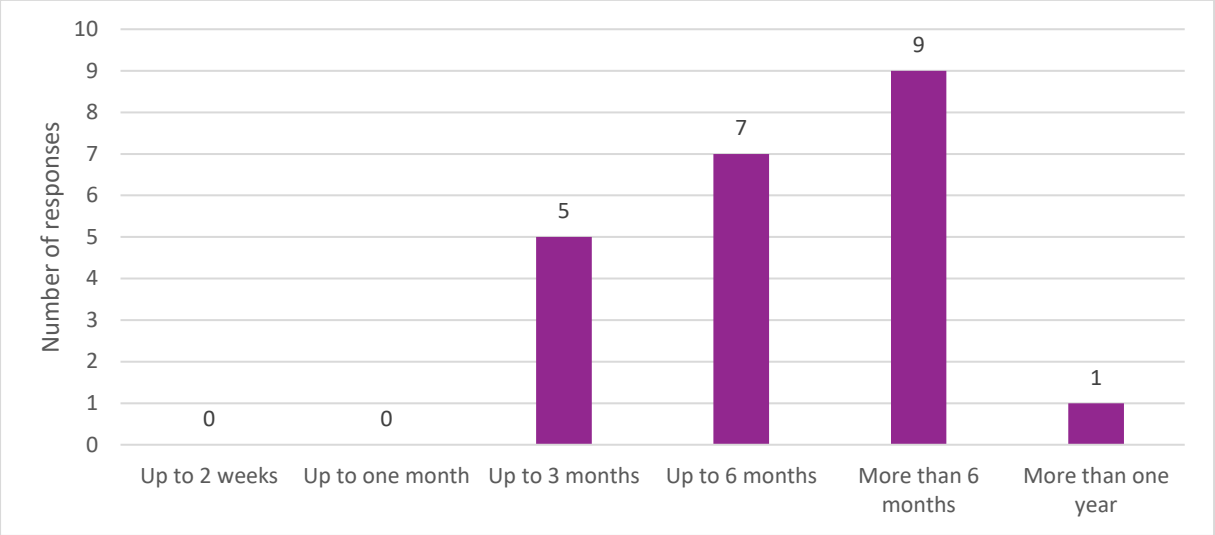
From the information obtained, it can be concluded that in the vast majority of cases, sales calls are made to people who are not associated with the IT industry or do not have a decision-making role in the company. In second place are senior managers/business owners/ IT-related decision makers, and in third place are IT -managers who are the decision makers.

Figure 11: People with whom sales pitches regarding AI technology are most often conducted



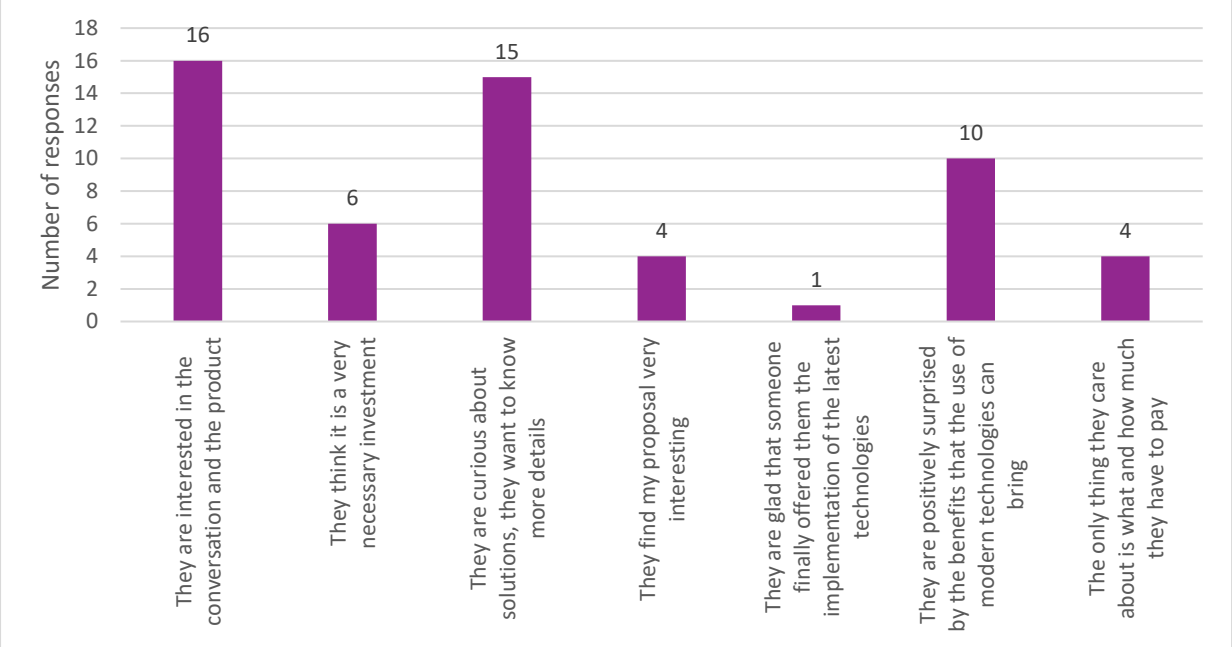
Answering about the how much time usually elapses between the first contact and closing the sales, participants mentioned that it is usually a duration of more than 6 months.

Figure 12: The time that elapses from the first contact to the closing of the sale



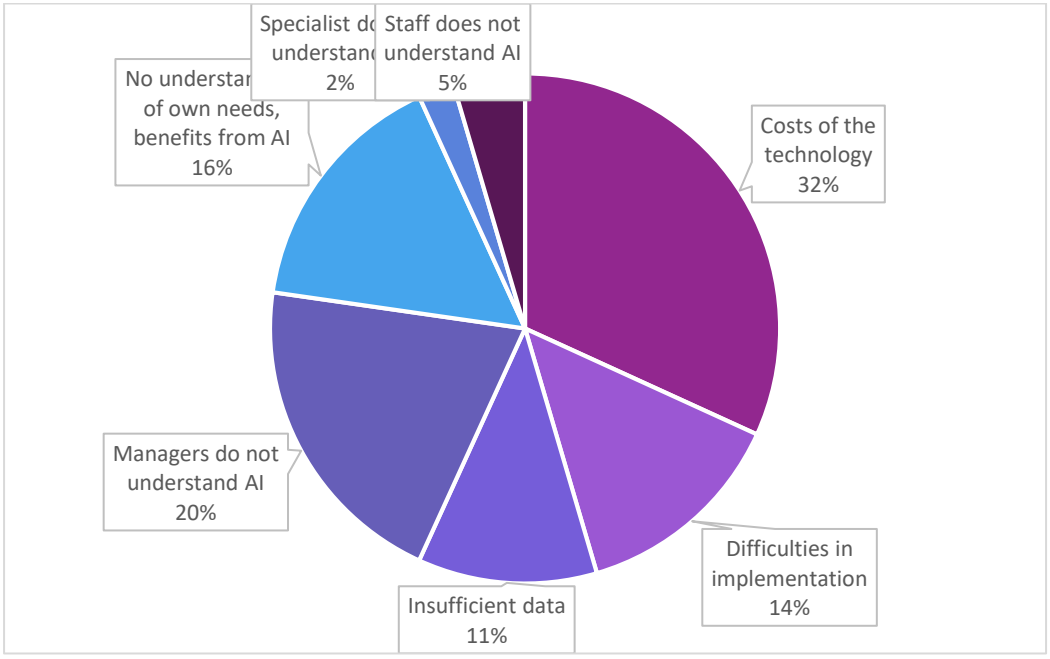
When asked how the interviewees most often responded, the respondents from each country indicated that they are interested in the conversation and the product, and that they are curious about solutions, and that they want to know more about details.

Figure 13: Interlocutors' reactions to the proposed AI solutions



Regarding the main barriers in implementing AI solutions, the respondents indicated the following: the costs of the technology; managers that do not understand AI; no understanding of own needs or the benefits from AI; and difficulties in implementation and insufficient data.

Figure 14: IT solution sales barriers



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When asked what would contribute to more effective sales of AI-based products and services, respondents primarily indicated:

1. Educating the market and buyers of these types of solutions;
2. Raising awareness of the benefits of these products and services;
3. Data and appropriate education.

3.4. Interview 2

Profile of interviewees

Nine high-level managers (3 per country) participated in this part of the study and shared their experiences with implementing AI-based technology from a business perspective. The participants in the interviews of high-level managers outside the ICT sector have had many years of experience in building a company, and many of them have their own business, and some of them have completed MBA studies.

Basic knowledge and understanding of key concepts in the field of AI

When asked what artificial intelligence business solutions are, participants indicated the following:

- the processing of information and data by a computer, leading to the ability to make business decisions,
- moving forward in comprehensive business solutions by using computer and software solutions to get help in processing more data;
- providing information that helps in decision making that is important from the company's point of view and suggesting next steps,
- solutions that are produced by the machine, in order to help people reduce mental work,
- new opportunities for the company
- the faster analysis of data and to eliminate the human factor,
- a "problem-solving tool" based on data and a "machine learning" algorithm that allows decisions to be made without the need for a human being.

Participants in Croatia and Slovenia made several references to artificial intelligence, namely: machine management, partial robotization, inventory management, use of cards and GPS, reservations, online reservations, and check-in. The interviewees from Spain did not give any example of the use of AI in business.

Assessment of the need for the use of AI solutions in their organization

All participants stated that AI-based technology is extremely necessary, as it is the future of any company mainly because of the benefits of its implementation. “We are surrounded by data and in order to make the right decisions regarding our business, we need help in the form of artificial intelligence”. AI can help companies to be quicker than their competition on the market. Thus, the

enterprises will be more successful in finding the right solution and not stand behind the progressive sectors.

Artificial intelligence can help companies in many ways. As indicated by participants, it can:

- replace humans in the production process and reduce the risk of human error in that process;
- reduce costs;
- work around the clock;
- get faster access to data to ensure good management;
- increase the speed of data exchange and promote data protection.

All participants agreed that AI influences the development of a company. They also agreed that artificial intelligence can improve business management. Participants also pointed out that apart from the advantages mentioned above, the following was true:

- AI significantly affects competitiveness, even when it comes to the largest global corporations;
- AI will help speed up processes and make faster and more optimal decisions, as, for example, in the production process;
- AI will allow people to focus on other tasks that require human-to-human contact, such as talking to customers or planning corporate strategy where AI cannot yet be used;
- companies have better access to the right data; this data will help to have the right solution;
- with the application of AI, the decision-making process is more accurate.

Regarding the implementation of AI technology in their company, responses are mixed: some indicate that it is already part of the core business model from inception, while others indicate that it is simply not feasible due to limited financial and IT resources. Some respondents are waiting for ready-made solutions that will be available on the European market, while others see no need because it is not clear to them how AI could help them. However, most believe that AI could be useful in their business but they never had thought about it.

Participants are not afraid to implement AI technology, but many of them have concerns about its adoption:

- concern is in the management, because people are not ready to make significant changes (characteristics of the sector);

- replacing the human touch, because AI cannot replace humans;
- market manipulation, etc. (in general)
- to get the right data for AI and what to do with it;
- human resource restructuring (reduction in the number of workers, fear of layoffs, etc.);
- legal issues related to analytics performed on customer data.

One participant also mentioned that people are afraid of AI because they are not aware that it will never change humans, especially due to the fact that humans "have creativity and innovation and are something that cannot be programmed".

Another aspect discussed were the need for the introduction of AI in companies. Several points were highlighted by the interviewees:

- knowledge is the most important in the process of selection, knowing how it works and the what kind of benefits it has;
- investments and support;
- the fact that the human touch must be part of AI;
- competent and capable people who know what to do with the data;
- the need to collect important and relevant data so that it forms the basis for making the right decisions;
- well-defined processes and human resources;
- well-structured project tasks;
- managers aware of what they want so they do not go down the wrong path;
- top management who are aware of the benefits and opportunities of its use, and should lead the adoption of these solutions;
- a business model that should be realigned;
- HR and IT restructuring and transformation to support the new technology.

When asked which departments of the company could use AI technology, participants mentioned departments where they are managers, i.e.: production, sorting services, and analytics. They also mentioned accounting, finance and sales departments. The construction field could benefit in the production process, warehousing and safety department. Participants pointed out that AI technology could be used everywhere and they agreed that AI is a transversal tool for all areas.

When asked about the risk related to the implementation of AI in the company, participants indicated:

- the need to ensure a high level of data protection;
- IT infrastructure and lack of adequate human resources;
- the loss of employees due to the Covid-19 and the war in the region, as well as the energy crisis;
- the reduction of staff and of the future characterized by less socialization;
- investing in a solution that will not fit or will not be used to its full capacity (failed investment in IT, HR, etc.).

All participants believe that access to AI solutions is easy and they mentioned that companies are developing in greater numbers in this direction and that information is available. All Croatian participants, almost all the Slovenian and none of the Spanish participants, have contact with companies offering artificial intelligence solutions. They have contact either directly or through an indirect contract such as email or phone. All participants indicated that the easiest place to find solutions is on the Internet, as most of the companies from IT advertise there.

All participants agreed that AI can be trusted, even if there are sometimes doubts about modern technologies.

Recommendations and assessment of needs

In order to increase the level of implementation and the use of AI in the companies, the participants pointed out that:

- companies need management help;
- managers need education, including reducing resistance to implementation from senior management;
- companies responsible for a specific industry need to have prepared relevant business cases in order to quickly implement AI solutions;
- there should be an understanding of the areas where entrepreneurs could support the businesses and shows best practices and challenges that come with the implementation;
- there is a need to teach entrepreneurs how to use AI;
- companies should have access to non-refundable funds;
- the decision should start from top management to the bottom;

- top managers should evaluate whether AI fits the business model or business model areas;
- the government should support the implementation of AI in SMEs through funding, aid and credits.

When asked if bringing awareness to the managers of the opportunities and the return on investment in using AI, which could help increase turnover and thus increase the use of AI across the economy, all participants indicated that it could. One participant noted that education plays the most important role.

Conclusion

AI is a direction that is in the present, not necessarily only the future. It is a reality that we cannot avoid, as it is here and now. We (Croatia) need to mature so that AI becomes part of our own success story.

4. General conclusions

This Joint Report was based on research conducted at Algebra University College, Faculty of Applied Social Studies in Nova Gorica and University of Alcalá as part of WP1. The research was divided into secondary research, which reviewed MBA programs, and primary research, which included the following elements: interviews with AI experts, focus group with AI experts, online survey for AI experts and interviews with high-level managers from industries not related to IT.

Based on the secondary research conducted, it can be concluded that:

1. there is a wide range of MBA programs offered by both private and public institutions,
2. most of the programs offered last between 12 and 36 months,
3. most of the programs are live classes,
4. most of the programs are offered in English only,
5. most of the programs require prior work experience,
6. most of the programs include content related to modern technologies,
7. none of the programs, with the exception of the one (Mini MBA) offered by Algebra University College and ESADE Business & Law School have content related to artificial intelligence solutions.

Based on the primary research conducted with AI experts, it can be concluded that:

1. experts participating in the research have several years of experience in the AI industry,
2. experts participating in the research are aware of the importance and profitability of AI-based solutions,
3. the private sector is more open to AI solutions than the public sector,
4. AI is most commonly used in areas such as IT, e-commerce, online sales, advertising, logistics, health, trading, financial, transportation, smart-agriculture, tourism, military, fuel, public administration (Spain).
5. the person with whom sales discussions are held is usually the CEO, who does not know about the possibility of using AI, or a person who has this knowledge but does not a decision-maker,
6. the sales process usually lasts more than 6 months and the first phase consists of presenting the benefits that the use of AI can bring,
7. potential buyers are open to offers, they often want to know more details about the possibilities of AI,

8. companies use a variety of sales techniques to get potential buyers to buy, the sales process is not standardized,
9. according to experts, educating people about the possibilities of using AI technology is a solution that would increase sales of AI-based solutions,
10. according to participants, raising managers' awareness of the opportunities and return on investment of using AI can help increase sales and thus increase the use of AI throughout the economy.

In the second part of the primary research, interviews were conducted with high-level managers from industries outside IT. From the interviews conducted, it can be concluded that high-level managers:

1. are aware that AI-based solutions can contribute to the development of the company and bring profits,
2. believe that AI-based solutions are expensive and often unavailable for the type of companies they run,
3. see the possibility of implementing AI-based solutions in their company but they not think about,
4. have many concerns about implementing AI technology in their company,
5. know where to look for solutions, some of them have talked to AI-based service providers, but none of the them have decided to implement this solution in their work/company,
6. strongly agreed with the statement that raising awareness and educating managers about AI opportunities is an appropriate way to encourage the adoption of these types of solutions.

Overall, the primary research shows that executive education about AI will help increase the implementation of AI-based solutions, while the primary research shows that MBA programs do not include AI content.