



# Generative AI

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## 1 Summary.

Elitmind is a leading Polish company integrating and building Data & AI solutions. Our character is professional services. We have been implementing solutions using AI for 8 years, largely using the Machine Learning model, but also speech and image recognition. Over the last year, we have seen a very large increase in interest in the widespread use of LLMa models (ChatGPT/OpenAI). High interest, fueled by vendors such as Microsoft, means that AI has now been treated as a separate and parallel domain.

In our opinion, this area (AI/GenAI) should have first a form of standardization and certification, because only on this basis can further areas be built, such as competition rules. The lack of common features in the description of these models will make interpretations, including legal ones, very difficult. GenAI models must be able to be verified in terms of security, data used for training, quality of operation, speed, etc. The manufacturer should be responsible for this. It would certainly not be good for new regulations to limit the possibility of their wide use, but they should build awareness of their use in appropriate conditions and for appropriate areas.

## 2 Answers.

### 2.1 What are the main components (i.e., inputs) necessary to build, train, deploy and distribute generative AI systems? Please explain the importance of these components.

Language model-based solutions are based on architectural patterns that determine the use of various components. The most common use is to use a direct connection of the Language Model (LLMs) with the Knowledge Base, e.g. ChatGPT with PDF files via additional services that enable reading PDF files or other knowledge formats. This response goes back to GPT and is interpreted, and then a response is created to the end user or system. Therefore, these solutions are more like an application composed of several modules: frontend application, backend in the form of a model and a knowledge base. Training the solution in GenAI is different than in the case of Machine Learning, it involves tuning the prompt that is sent to the model so that its answer is as correct as possible. The model's performance, i.e. response time, is also tested. This is often a big problem and hinders commercialization. Training the model, and these are models based on neural networks, would require huge resources of power and equipment, which makes such an approach impossible in real conditions and a wide range of clients.

Ready-made services like Copilot are an idea, but without standardization they are a kind of toy with no business guarantee.

### 2.2 What are the main barriers to entry and expansion for the provision, distribution or integration of generative AI systems and/or components, including AI models? Please indicate to which components they relate.

Barriers from the customers' side:

- Lack of awareness on the part of the business side about possible benefits. Business has not yet developed data science competencies, and we have a novelty in the form of Generative AI, i.e. ready-made models that work like black boxes. The client's business does not understand the principles of their operation, which complicates their reception and confidence in correct operation.
- IT does not have the competence to calculate TCO in order to show the business possible benefits. There are no developed indicators (KPIs) regarding the quality



of services available on the market. There are no rankings that could justify paying for such solutions.

- IT does not have the competence to answer about the security principles of such solutions, not only from the IT side but also from the legal side.
- Business is eager to implement projects on the POC/MVP basis, but is unable to define the success criteria of such projects.
- Lack of IT environments that support Data Science implementations. Data Warehouses are the norm, not knowledge bases or databases needed for modeling, e.g. no Feature Store's.

Barriers from solution providers (Microsoft, Databricks, GCP, etc.):

- Lack of clear information regarding the quality of the models, their commercial implementation and use.
- Vendors treat customers and suppliers (integrators) as an area to test their solutions, shifting all responsibility and costs to them.
- Vendors are outdoing each other in AI marketing, pointing only to Generative AI, not to other areas such as DataScience etc.

Barriers from suppliers (integrators):

- High cost of quick education of teams in the area of new services (GenAI).
- Lack of specialists on the market in the area of GenAI. This is due to the fact that AI was mainly understood as Machine Learning and was not yet as widespread as it might seem.

### **2.3 What are the main drivers of competition (i.e., the elements that make a company a successful player) for the provision, distribution or integration of generative AI systems and/or components, including AI models?**

- The combination of several things means that the use of GenAI has a chance of achieving customer success. This is the most important thing, basically these solutions have to serve a purpose, otherwise the whole investment makes no sense.
- The above is the most important thing to achieve success in this market and thus overtake the competition. Having the skills to find a business application, the ability to implement and maintain guarantees success and distinguishes you from



the competition, which often does not have such skills or only has two out of three.

- Human resources are also important, training, experience gathering, work automation, legal support are essential here.
- GenAI implementations often resemble application implementations more than DataScience implementations, this is due to the fact that these services are already ready, and the difficulty is that their users do not know how to use, implement and maintain them.
- An additional advantage may be the fact that new professions are emerging on the market, such as prompt engineer/analyst/tester.

**2.4 Which competition issues will likely emerge for the provision, distribution or integration of generative AI systems and/or components, including AI models? Please indicate to which components they relate.**

After the unsuccessful boom in BigData solutions, a new trend has emerged for Data solutions based on Lakehouses. This is nothing more than another name for failed BigData implementations. Currently, this trend is strengthening, but a new AI trend has emerged, which is treated in the same way as BigData.

The problem is that many IT companies see it as an opportunity for huge profits, but also as a threat related to the lack of clear guidelines regarding the definition of success. Such great popularity may make the prices of the solutions too low to maintain the appropriate quality, which will consequently affect the customer who will move away from using AI in their processes.

Again, too expensive AI services and the lack of clear rules for success may result in the same effect, i.e. a rapid decline in the popularity of the solutions.

Today, the main driving force behind these services are vendors such as Microsoft, Google and Databricks, who are conducting a multi-million dollar campaign to promote GenAI.

The policy of cooperation with implementation companies may constitute an obstacle to spreading these solutions because the same vendors do not have enough resources to implement these solutions.

**2.5 How will generative AI systems and/or components, including AI models likely be monetised, and which components will likely capture most of this monetization?**

Today, vendors dictate the terms and conditions regarding the return on investment of using genAI. For example, Microsoft and its model are not so favorable for building their solutions by partners, because the principles of basing the solution on the length of the promo are not conducive to wide use. However, licenses dependent on computing power are very expensive, too expensive for the moment when there is a market and there is a moment of education and experiment.

An easier and cheaper model of using GenAI to build custom solutions for customers could bring benefits to all parties: wider use, faster expansion, etc.

For this purpose, rules would need to be established for measuring the quality of models, both in terms of use, safety and law.

If this happened, monetization models based on licenses would be created, e.g. successful sales, customer contact, stopping churn. If vendors do not change their policy, such use will be difficult and will always depend on the length of the prompt, which is absurd because the length of the prompt is ultimately not determined by the questioner, but by the quality of the answer.

**2.6 Do open-source generative AI systems and/or components, including AI models compete effectively with proprietary AI generative systems and/or components? Please elaborate on your answer.**

The lack of standardization as to the quality of solutions makes such an assessment impossible. Therefore, OneSource solutions may work identically to those from well-known vendors, but it is false to believe that those from vendors have a guarantee of staying on the market. For example, the client needs a guarantee that the solution will be maintained for at least 10 years and will not be disabled after the costs of its implementation. Therefore, this question is wrongly asked, because the problem is not Open Source but the lack of standardization, which can also be done on Open Source solutions.

**2.7 What is the role of data and what are its relevant characteristics for the provision of generative AI systems and/or components, including AI models?**

The role of data is crucial, and we are basically talking about the role of the knowledge base that is used by GenAI solutions.

Well-prepared data, integrated and easy to interpret, sometimes determine the success of a project or solution.

GenAI models, such as OpenAI (GPT), are generally not trained on customer data, they are used as a base for querying and returning results, which is why they are as important as data in reporting and analysis. They are just used differently.

Language models do not create new data, they only create appropriate messages in natural language based on the data provided. As a result, it is often misunderstood by unaware customers that GenAI is smarter than the data it processes.

**2.8 What is the role of interoperability in the provision of generative AI systems and/or components, including AI models? Is the lack of interoperability between components a risk to effective competition?**

As we have written here many times. There is a lack of standardization as to the quality of the solutions but also the possible compatibility between them. Of course, the solutions have their own standards, for example Rest AI or other communication. However, GenAI itself integrates with other add-ons so that it is not that difficult. Moreover, the wide use of queries such as prompts also constitutes a kind of standardization.

**2.9 Do the vertically integrated companies, which provide several components along the value chain of generative AI systems (including user facing applications and plug-ins), enjoy an advantage compared to other companies? Please elaborate on your answer.**

It depends on the relationship between this company and the vendor. Certainly, those companies that have direct connections with vendors such as Microsoft have some kind of advantage over the rest of the market. The most important thing that constitutes this advantage is the awareness of the road map of changes that will occur on the market not in a few months but in a year or two.

The lack of standardization for these solutions poses a great risk for investing in such a business. Lack of awareness about new areas of development makes it impossible to make decisions. Likewise, there is a lack of awareness of the solution life cycle, e.g. how long a solution made commercially available on the market must be maintained by the creator on that market. For example, the new GPT4.0 model must have a manufacturer's guarantee that the solution will be maintained on the market for a specified period, updated or developed.

**2.10 What is the rationale of the investments and/or acquisitions of large companies in small providers of generative AI systems and/or components, including AI models? How will they affect competition?**

Vendors such as SAP, IBM, UiPath, Salesforce, IBM or even GCP must compete with Microsoft. That's why they try to outdo themselves by taking over smaller companies, because they have to catch up with the pioneers and leaders faster. In our opinion, this is natural and normal in the market. The most important thing is that these types of solutions can be standardized to enable customers and other entities to assess their quality. These solutions are difficult for the customer to explain and understand, which is why we believe it is essential. Just as each electronic equipment has its own energy consumption rating or, for example, an EU quality certificate, these models should also have their own level of compliance, the quality of the model's operation, the 'lies' it generates, the sources on which it was trained, safety tests, etc.

**2.11 Do you expect the emergence of generative AI systems and/or components, including AI models to trigger the need to adapt EU legal antitrust concepts?**

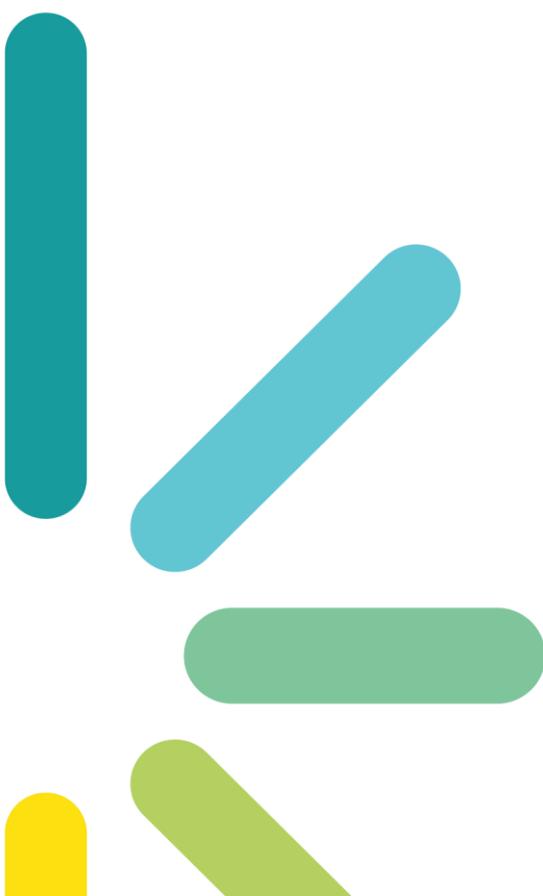
Competition protection based on rights to works should first be verified to what is already provided for in the law, so that it does not create exceptions only for AI.

What is the difference between solutions that use the machine learning model and solutions that use the generally available LLMs model? Nothing, really. Therefore, regulations must be universal. Competition protection must be explained in more detail here so that it can be addressed. For us, first of all, standards and quality certificates for available GenAI solutions should be created, starting with LLM models. The European Union should, on the one hand, guarantee the possibility of pursuing claims regarding the quality of operation of these models from their

manufacturers, and on the other hand, create opportunities for their wide use and testing. For example, the use of GenAI in medicine can, on the one hand, bring as many benefits as it can cause problems. However, in another area, such as retail, there are no such large risks. Therefore, GenAI models for medicine should have an appropriately high level of quality of their operation and information regarding the data used.

## 2.12 Do you expect the emergence of generative AI systems to trigger the need to adapt EU antitrust investigation tools and practices?

It all depends on the intention of this law. Is the law intended to protect producers of LLMs or the clients they will use to create new solutions? This type of solutions use ready-made components, this is nothing new, AutoML has been known for a long time and is widely used. These models are built on datasets that are unknown to users. For integration companies, new laws or regulations cannot pose a risk of claims of rights from the client or manufacturer regarding its commercial use. On the other hand, integrators use GenAI to create a new work, which is transferred to the client after the work is completed. What is more important here is not the law, because it is, according to we exist, and what is more important are the standards and certification of these models, e.g. security, data used, communication or performance.



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