



AI in the Risk Function of Serbian banks: Between Potential and Actual Adoption

**Maturity analysis, key challenges,
and practical steps toward sustainable
and regulatory-compliant transformation**

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KPMG Belgrade



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01

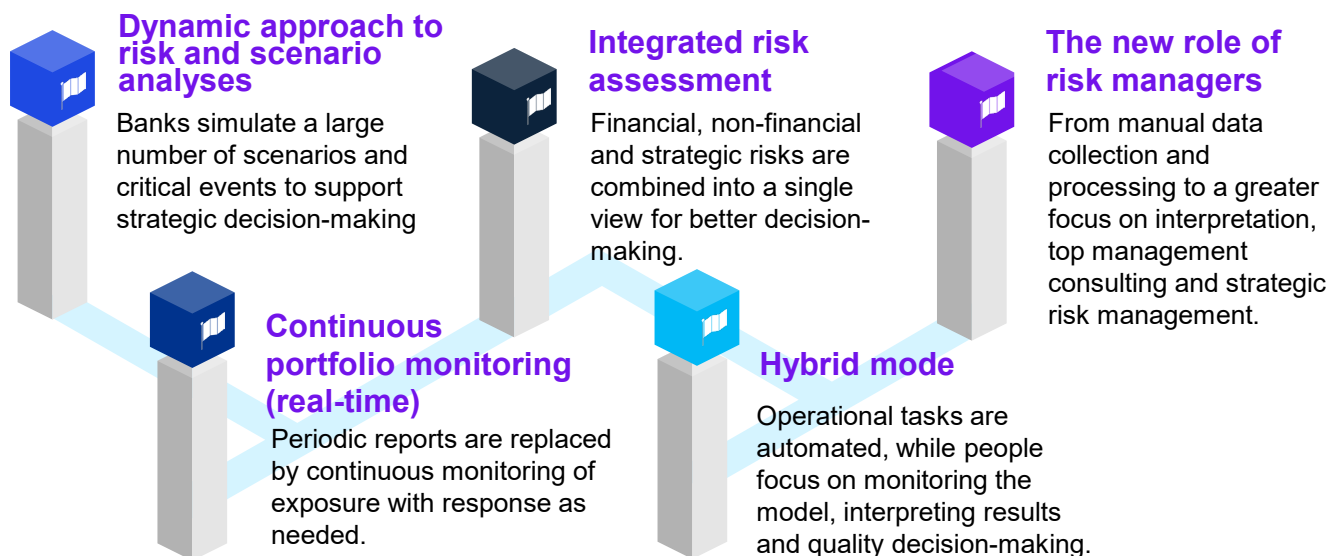
Transformation of the risk function in the era of artificial intelligence

Why is AI transformation important to the risk function?

AI is becoming a key factor in improving efficiency, risk control and regulatory readiness

Banks on the local market lag behind in establishing a framework for managing AI, applying models in key risk processes and developing adequate infrastructure. As a result, the risk function still relies heavily on manual activities, which increases operational burden, costs and limits scalability.

Trends in the risk function



Priorities for the next period:

- Define the AI management framework and risk models
- Improve the quality, availability and management of data
- Strengthen competencies within the risk function
- Automate processes with a high operational load
- Prepare the organization for AI Act and DORA requirements

How is risk management changing?

Evolution of the risk management function

The risk function in banks is going through a significant transformation. From retrospective analyses, focused on historical data to the approach based on predictive and advanced analytics.

Advanced models enable earlier identification of risks, while the development of AI agents further automates complex processes and shifts the role of experts to strategic decision-making, i.e. to the new role of AI risk managers.

Regulatory pressure

In addition to technological changes, the regulatory framework is increasingly influencing the pace and manner of applying AI in the risk function. Regulations such as the EU AI Act introduce the classification of AI systems and mandatory controls, DORA further emphasizes the management of digital and ICT risks, while Basel IV/CRR3 tightens the requirements regarding models and their validation, which is why the implementation of AI requires the alignment of technological solutions with increasingly complex regulatory expectations.

Key changes in the risk function

Process automation and operational efficiency

AI automates key operational activities, such as loan processing, classification and data extraction, significantly speeding up claim processing and reducing manual analyst work.

Transition to predictive models and proactive risk management

The application of advanced models enables the transition from static monitoring to proactive management through pattern detection and early recognition of risk events, including automatic recognition of early warning signals (EWS) and improved credit decision making.

Introducing AI agents and GenAI solutions into everyday processes

GenAI and AI agents enable automated reading, comparison and verification of data from different sources (contracts, credit bureau, tax administration), thus the risk function moves from manual processing to integrated model-driven processes.

Changing the role of risk professionals and the way of making decisions

The role of employees in the risk function is shifting from manual data processing to model interpretation and decision-making, along with the development of new AI competencies.



02

KPMG methodology for assessing AI maturity in Serbia

KPMG Maturity Assessment Methodology

The KPMG AI maturity assessment methodology enables a comprehensive evaluation of banks' ability to plan, implement and scale AI initiatives. Through a structured questionnaire and clearly defined assessment criteria, organizations gain insight into the current level of maturity, identify key gaps and define priorities for further development.

Objective and value of the assessment

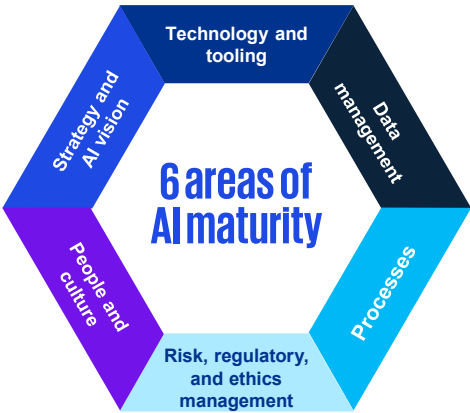
Through a structured questionnaire with a maturity score (1–5) for each area, the assessment enables:

- identification of key gaps in AI capabilities
- understanding the current level of implementation and compliance
- defining priority initiatives for improvement
- development of a clear plan for building AI capacity

The end result is a clear set of recommendations that help banks systematically improve AI initiatives and maximize business value.

AI maturity assessment areas

The areas covered by the methodology represent key success drivers and enable the identification of strengths and weaknesses in each area, providing organizations with a clear framework for improving and developing AI capabilities.



3 levels of AI maturity

Our AI Maturity Model defines three progressive levels that describe how effectively an organization is adopting, operationalizing and scaling AI capabilities. Each level reflects an increasing degree of structure, governance and alignment with business goals, enabling organizations to understand their current position and define a realistic path to realizing full business value through the application of artificial intelligence.

1 Initial phase AI initiatives are informal and reactive, mostly based on isolated projects without clear governance, standardization and coordination at the organizational level.	2 In development AI initiatives are in the development phase, focused on individual use cases and pilot projects. There are basic elements of governance, but standardization and integration are not consistent.	3 Transformation leaders AI is fully integrated into the business, with standardized practices and scalable implementation that generates measurable business value.
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03

Key findings of the AI maturity assessment in Serbia

Challenges in building the foundation for AI transformation



AI in the risk function of banks in Serbia is at an early stage of development, with significant challenges in strategy, management, regulation, knowledge, data readiness and infrastructure.

KPMG, in cooperation with **The Association of Serbian Banks**, conducted a survey that analyzed the maturity of Serbian banks for the implementation of artificial intelligence and presented it in May 2026 at the **BankFining** conference in Zlatibor.

The survey included 18 banks, while the research methodology included a quantitative approach with a focus on assessing different dimensions of AI transformation, **such as strategy, level of implementation, employee competencies, risk management, data quality, infrastructure and readiness for the introduction of regulations.**

The results show that Serbian banks are at an early stage of development, **with an average maturity level of 28%**, with most institutions using AI through fragmented initiatives without a clearly defined strategy and adequate data preparation.

Key findings

- 1 Most banks do not have a clearly defined AI strategy and management framework**
AI initiatives are not systematically managed and in a significant number of banks there is no clearly defined owner, development plan or budget for AI.
- 2 AI is used ad-hoc for productivity, without integration into risk processes**
The application of AI tools is fragmented and focused on supporting employees, while their role in key risk processes is limited.
- 3 Banks are in the early stages of becoming familiar with the regulatory framework**
There is a low level of information about regulatory requirements, and banks are at an early stage of familiarization with relevant regulations such as the EU AI Act and DORA.
- 4 AI knowledge and organizational skills are limited**
AI competencies are mostly concentrated in a small number of individuals, without systematic training, defined roles and broader organizational support.
- 5 The data is not ready for the scalable application of AI**
The lack of standardization, structure and automated data pipelines limits the development and production deployment of AI models.

04

Risk function assessment in banks

Assessment of AI maturity of the risk function in Serbian banks

The research provides an overview of the current level of maturity across the key dimensions of AI strategy, implementation, organization and data in the risk function of the banking sector.

18

banks included in the research

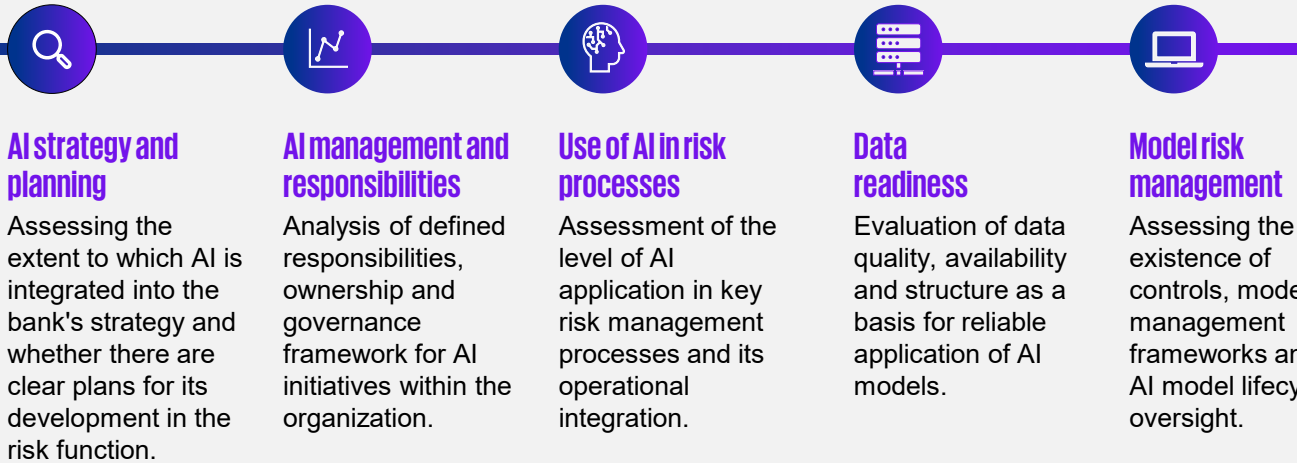
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key dimensions of AI maturity assessment

28%

average AI maturity in the risk function

Dimensions of AI maturity assessment



Distribution of AI maturity of banks in Serbia

Most banks are in the early or developmental stages of AI maturity, with a small number of institutions emerging as leaders.





AI strategy and planning

Why is this important?

Strategy and planning are the foundation for everything that follows. If the bank does not have a vision and an implementation plan, then all other efforts, tools, training, data, isolated experiments are without direction. This dimension measures three things: whether AI has a place in the bank's strategy, whether there are plans for preparation before implementation, and whether there is a clear plan for implementing AI initiatives.

What does the survey reveal?

44%

banks have AI as part of its strategy

27%

banks have no plans to implement AI

5%

banks have a long-term plan to implement AI

Distribution of banks by maturity

Transformation leaders



75-100% maturity

In development



25-75% maturity

Initial phase



0-25% maturity

What maturity means by levels

2

Transformational leaders

AI is part of strategy, value is measured through risk reduction and there is a roadmap.

Next step: Integrate the roadmap into the bank's digital strategy

7

In development

AI is seen as a potential for certain areas within a bank and the plans are conceptual.

Next step: Turn the concept into an operational roadmap.

9

Initial phase

AI is not mentioned in the strategy, value is not analyzed and there is no plan for implementation.

Next step: Name the owner and analyze the value of the AI in the Risk function.



AI management and responsibilities

Why is this important?

Without a clear owner, ambassador and regulatory preparation, AI initiatives remain informal and unattended when things go wrong. This dimension measures three things: who is responsible for AI decisions in the bank, whether there is knowledge and collaboration to support that responsibility, and whether the bank is ready for human oversight of AI decisions. This becomes especially important in the context of the DORA regulation, which is yet to be implemented in Serbia.

What does the survey reveal?

78%

banks don't have
AI ambassadors

39%

banks are not familiar
with the EU AI Act

39%

banks have no formal
oversight of AI decisions

Distribution of banks by maturity



What does maturity mean by levels?

3

Transformation Leaders

Responsibility is at the management level and there is human supervision over the models.

Next step: Extend the governance framework to all AI use cases.

3

In development

There are named owners, cooperation is as needed and human supervision is limited.

Next step: Formalize the ambassador's role and approval procedures.

12

Initial phase

There are no owners, cooperation is informal and AI decisions are made without supervision.

Next step: Determine the owner of AI initiatives and establish basic approval procedures.

Use of AI in risk processes

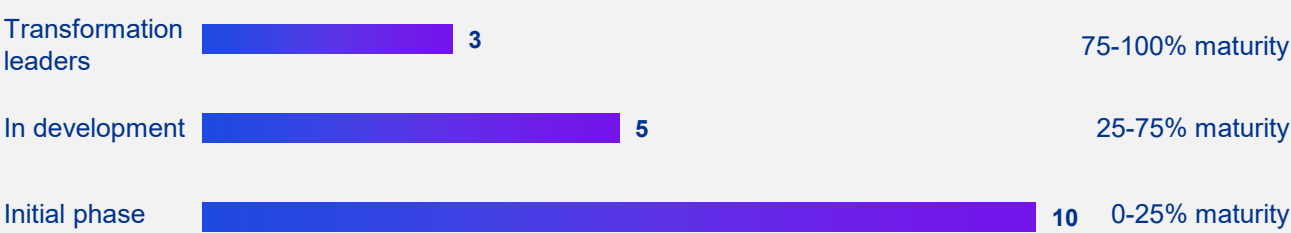
Why is this important?

The difference between "an employee uses ChatGPT" and "a bank uses AI for risk" shows whether AI is a tool for personal productivity or part of a systemic decision-making process. This dimension measures three things: whether AI tools are used directly in risk processes (scoring, monitoring, reporting), how much Microsoft 365 Copilot is embedded in daily work, and whether the bank has or is developing an Agentic AI platform for more advanced use cases.

What does the survey reveal?



Distribution of banks by maturity



What does maturity mean by levels?

- 3

Transformation leaders
AI is integrated into multiple risk processes. Experiments with agents.
Next step: Develop the Agentic platform with governance controls.
- 5

In development
Copilot is used regularly and AI is an ad-hoc part of some risk processes.
Next step: Standardize AI usage through the risk function
- 10

Initial phase
Copilot is not used or used sporadically and AI is not in risk processes.
Next step: Launch a Copilot pilot for one risk process.



Data readiness

Why is this important?

Even with a clear AI strategy, without clean and accessible data, models will be slow, unreliable and difficult to validate. This dimension measures three things: whether risk data is ready for AI models or stuck in reporting, how the data is prepared for use, and whether formal data quality management is in place.

What does the survey reveal?

67%

banks use the data
for reporting purposes only

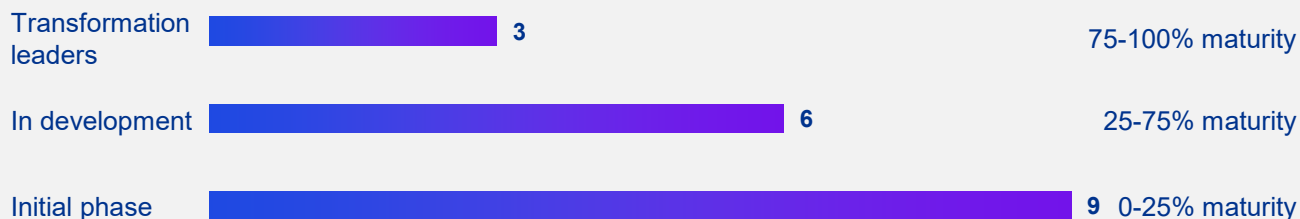
44%

banks prepare the data
manually

11%

banks have data ready
for AI models

Distribution of banks by maturity



What does maturity mean by levels?

3

Transformation leaders

Data is standardized and available to AI models. There are formal data quality processes.

Next step: extend standardization to new AI use cases.

5

In development

There are structured sets and basic scripts. Quality is partially monitored.

Next step: Standardize data preparation pipelines.

10

Initial phase

Legacy systems. Preparation is manual. Quality is not systematically monitored.

Next step: Do a data readiness risk assessment of the data



Model risk management

Why is this important?

The regulation goes in the direction that banks will have to prove how they manage AI models, from development and validation to monitoring in production. This dimension measures three things: whether there is a formal lifecycle for AI models, whether the bank can document and explain its models for regulatory oversight purposes, and whether risk teams are trained to work with those models.

What does the survey reveal?

78%

banks do not have a formal
lifecycle for AI models

78%

banks do not have a model
explainability framework

83%

banks do not use the cloud
for regulatory sensitive models

Distribution of banks by maturity



What does maturity mean by levels?

- 1 Transformation leaders**
 The lifecycle of the model is fully integrated and auditable, and there is standardized documentation.
Next step: Expand the practice as an internal reference for the sector.
- 3 In development**
 There are basic development/testing steps, and partial model documentation.
Next step: Introduce formal training programs for AI models.
- 14 Initial phase**
 No formal lifecycle, no framework explainability, and no training.
Next step: Define the basic lifecycle of the model (development, validation, monitoring, etc.).

05

From findings to patterns: what's slowing AI transformations?

From findings to patterns: what's slowing the AI transformation?

Based on combining responses from all five dimensions, five patterns emerge that are not seen when looking at the questions individually.

1

Shadow AI

Using ChatGPT and Claude without a management framework. 5 out of 18 banks use personal AI tools (ChatGPT, Claude, Gemini) in the risk function, while at the same time they have no defined or only informal responsibility for AI in the bank. Employees are already using AI in practice - the bank just doesn't have insight or control over it.

2

Dependence on a key person

AI knowledge concentrated in 1-2 people. 12 out of 18 banks report that AI knowledge exists only with individuals, and is not distributed across teams. If those people leave the bank or change position, the bank loses all internal capacity for AI in the risk function.

3

Copilot paradox

Wide use, but no business effects. 3 out of 18 banks use Microsoft 365 Copilot daily or almost daily, while at the same time they have zero or one use case of AI in real risk processes. Copilot has become part of the work routine, but it has not changed the way risk work is done.

4

The gap between plan and implementation

There are plans, but they are not implemented. Of the 5 banks that have AI initiatives as part of their risk function development plan, 4 do not have a formal lifecycle for AI models. The plan exists on paper, but the operational basis (MRM, controls, validation) to implement that plan does not exist.

5

Fragmented maturity

Almost no one is a leader on more than one dimension. Out of all 18 banks, only two are leaders in 4 out of 5 dimensions of maturity. All other banks that are leaders in any dimension are leaders in only one. If a bank is strong in strategy, it does not mean that it is strong in governance. Being strong in tools and infrastructure does not mean the data is ready. Maturity is not a question of "does the bank work on AI", but "does the bank work on AI evenly across all required areas".

06

Comparative analysis of Serbia and the EU

Methodology of comparative analysis of AI maturity: Serbia and the EU

The analysis combines the results of a survey of domestic banks with publicly available EBA insights on the application of AI in the EU banking sector, in order to position the domestic market in relation to the European benchmark.

Defining the dimensions of maturity

The survey results are mapped to six dimensions of AI maturity:

Integration

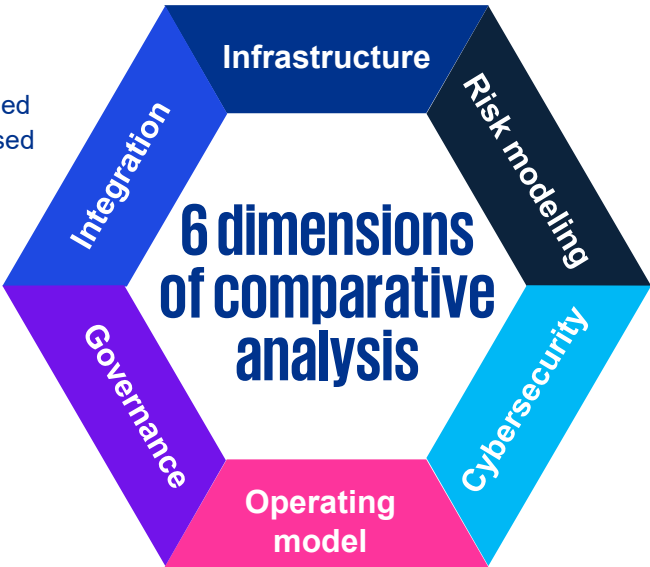
Is AI systemically embedded in risk processes or is it used ad-hoc?

Governance

Existence of AI policies, ownership, responsibility and model registries.

Operating model

Are there roles, controls, monitoring and human supervision in daily work?



Infrastructure

Can cloud, data platforms and systems support AI models?

Risk modeling

AI/ML model maturity, validation, explainability and governance framework.

Cybersecurity

Readiness of controls to protect AI systems, data and models.

EU Benchmark Methodology

The EU results were derived through a structured analysis of publicly available sources, primarily EBA studies and relevant research on the application of AI in the banking sector.

Analysis steps

- Mapping key findings from the EBA report to defined dimensions of AI maturity
- Identification of dominant practices in EU banks (AI use cases, governance framework, infrastructure)
- Consolidation of multiple sources to obtain a single benchmarking
- Normalization of findings to a single scale (0–100%)

Interpretation

The values show the level of AI maturity of advanced European banks, expressed on a scale of 0% to 100%, and are used as a reference point for comparison with the Serbian banking sector.

Data sources

- EBA GPAI - Digital Finance Factsheet Series 2025
- Anti-Money Laundering Alert Optimization Using Machine Learning with Graphs

AI maturity risk functions: EU and Serbia

Integration
EU 75% - RS 30%

- EU banks have massively integrated AI into daily risk processes.
- Domestic banks use AI mainly for personal productivity and not as a systemic part of the Risk function.

Infrastructure
EU 70% - RS 25%

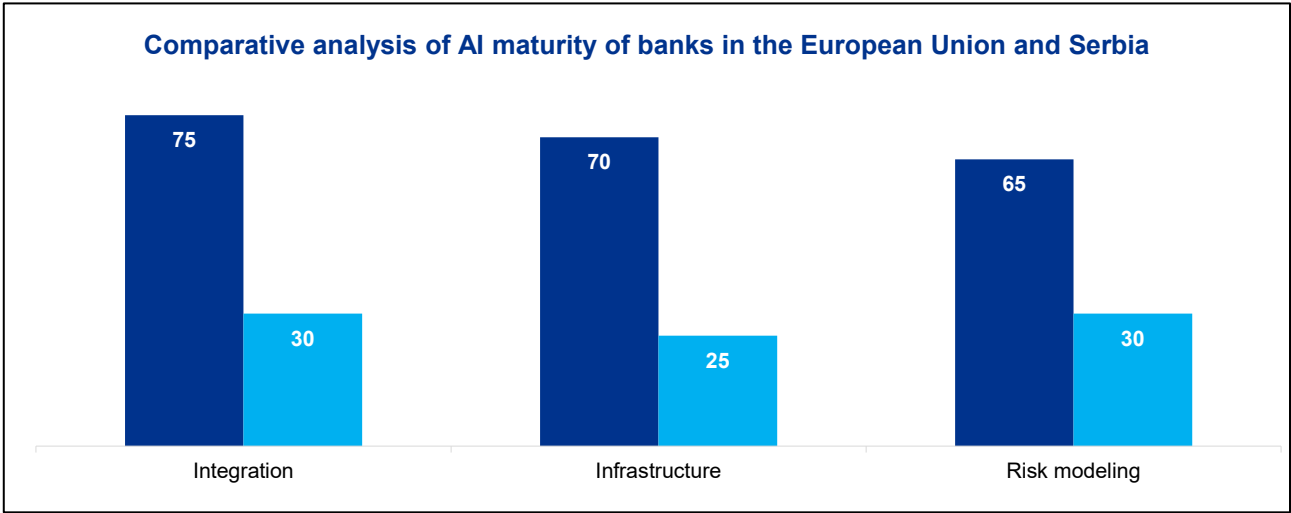
- EU banks have developed cloud and data platforms for AI.
- Almost no domestic bank has fully AI-ready data.

Risk modeling
EU 65% - RS 30%

- EU banks are actively using AI/ML in credit risk and AML.
- 17 out of 18 domestic banks do not have a formal framework for model management.

Implications for the domestic market

- The application of artificial intelligence in Serbia is mostly limited to individual initiatives without a clear plan, while in many banks AI is not used at all in the risk function. To make a breakthrough, banks should define 2-3 priority initiatives (e.g. credit risk assessment, risk monitoring and reporting) and introduce them into regular decision-making, instead of ad-hoc or pilot implementation.
- At the same time, the key challenge is data readiness, where it is still dominantly used for reporting, with manual preparation and limited automation. The first step should be the standardization of key data sets, introduction of automated preparation procedures and clear responsibility for data quality within the bank.
- In the area of modeling, most banks do not have a model management framework or a defined lifecycle. As a first step, it is necessary to introduce basic processes of model documentation, pre-use validation and regular performance monitoring.



AI maturity risk functions: EU and Serbia

Implications for the domestic market

- Research shows that most banks in Serbia do not have clearly defined responsibility for AI initiatives, or it is limited to individuals without a formal structure.
- Therefore, the first step is to introduce clear ownership of AI initiatives by appointing a responsible function and establishing regular coordination between business, IT and data teams.
- In the area of cyber security and regulatory requirements, a large number of banks do not have developed controls specific to AI, nor are they familiar with the obligations brought by EU regulations.
- Banks should start with basic measures: classifying AI systems, defining the level of risk, as well as introducing basic controls and human supervision over the decisions made by the models.
- Finally, the governance of AI is in most cases underdeveloped. There are often no policies, model records or monitoring. As a first step, banks should introduce a register of models, basic rules of use and minimum reports.

Cybersecurity
EU 75% - RS 50%

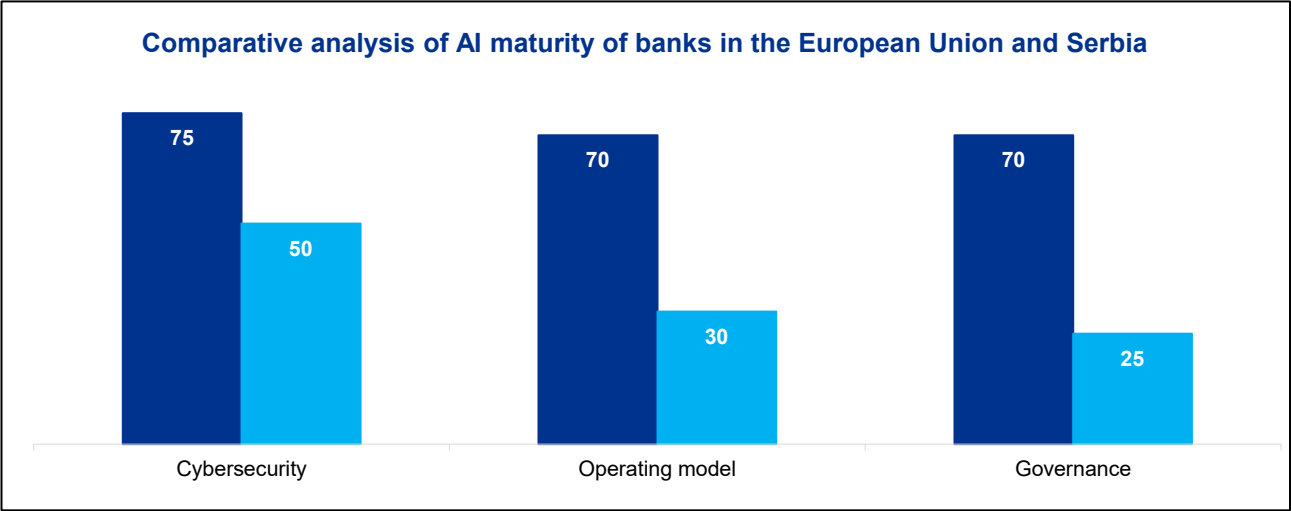
- EU banks have more mature cyber capabilities and regulation (DORA).
- Domestic banks are making progress but there are still limitations in AI-specific cyber controls.

Operating model
EU 70% - RS 30%

- In the EU, AI initiatives are integrated into the organization through formal ownership structures.
- 14 out of 18 domestic banks do not have a defined owner of AI initiatives.

Governance
EU 70% - RS 25%

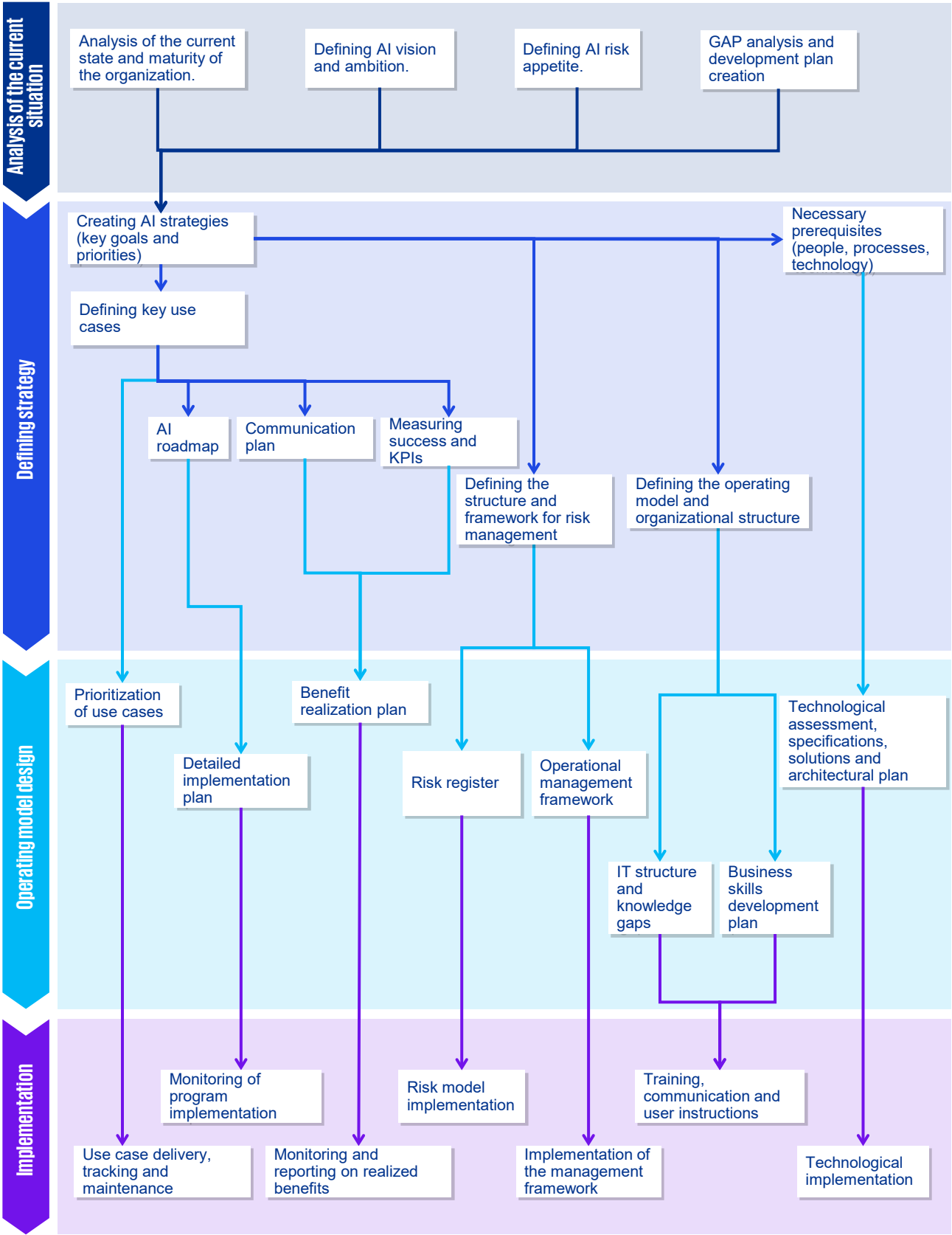
- EU banks are establishing formal frameworks for managing AI due to the EU AI Act and DORA regulation.
- Most domestic banks do not have AI policies or an inventory of key models.



07

A detailed roadmap for reaching AI maturity

A roadmap for reaching AI maturity



08

KPMG methodologies for AI implementation in banking

KPMG methodologies for AI implementation in banking

Integrated methodologies are essential for the successful transformation of banks through the application of artificial intelligence - from strategy and solution design to implementation and scaling.

1 AI Maturity Analysis

Assessment of the current level of maturity through key dimensions (strategy, people, risk management, regulation, technology, data, tools, processes), with the identification of the gap between the existing and desired state, as a basis for defining priorities and further transformation steps.

Maturity assessment

It **assesses** AI capabilities, processes and data readiness across defined dimensions

AI Maturity Assessment: Strategy and People									
Overall Current State Maturity: 2.72 Responsible but informal									
Key Dimensions and Sub-Dimensions									
Dimension	Sub-Dimension	Current State	Target State	Gap	Notes	Current State	Target State	Gap	Notes
1. Strategy	1.1 AI Vision and Strategy	2.55	3.03	0.48	AI vision is present but lacks detail and alignment with business goals.	2.55	3.03	0.48	AI vision is present but lacks detail and alignment with business goals.
2. People	2.1 AI Skills and Competencies	2.55	3.03	0.48	AI skills are present but not widespread across the organization.	2.55	3.03	0.48	AI skills are present but not widespread across the organization.
3. Risk Management	3.1 AI Risk Management	2.55	3.03	0.48	AI risk management is present but not comprehensive.	2.55	3.03	0.48	AI risk management is present but not comprehensive.
4. Regulation	4.1 AI Regulatory Compliance	2.55	3.03	0.48	AI regulatory compliance is present but not up-to-date.	2.55	3.03	0.48	AI regulatory compliance is present but not up-to-date.
5. Technology	5.1 AI Technology Readiness	2.55	3.03	0.48	AI technology readiness is present but not optimal.	2.55	3.03	0.48	AI technology readiness is present but not optimal.
6. Data	6.1 AI Data Readiness	2.55	3.03	0.48	AI data readiness is present but not sufficient.	2.55	3.03	0.48	AI data readiness is present but not sufficient.
7. Tools	7.1 AI Tools and Platforms	2.55	3.03	0.48	AI tools and platforms are present but not advanced.	2.55	3.03	0.48	AI tools and platforms are present but not advanced.
8. Processes	8.1 AI Processes and Frameworks	2.55	3.03	0.48	AI processes and frameworks are present but not standardized.	2.55	3.03	0.48	AI processes and frameworks are present but not standardized.
9. Governance	9.1 AI Governance	2.55	3.03	0.48	AI governance is present but not robust.	2.55	3.03	0.48	AI governance is present but not robust.
10. Culture	10.1 AI Culture	2.55	3.03	0.48	AI culture is present but not strong.	2.55	3.03	0.48	AI culture is present but not strong.

Gap analysis

Identifies the gap between current and desired state, and risk appetite, with a focus on priority areas



AI transformation

2 AI strategy

Defining a clear AI vision and strategy aligned with business goals, with a concrete roadmap for creating and scaling value.

3 AI Workforce (People and Organization)

Transformation of roles through the integration of AI into daily work, the development of AI competencies and the establishment of programs to improve AI skills.

4 Trusted AI framework

Establishing a reliable framework for AI governance, including risk management, ethics, regulation and control mechanisms.

5 AI technology and tools

Establishing standardized processes, tools and technology foundation for effective implementation and scaling of AI solutions.

09

From AI maturity analysis to prioritization and implementation plan

From AI maturity analysis to clear priorities and implementation plan

AI Maturity Assessment provides a structured insight into the level of maturity across key dimensions and translates the results into concrete goals and priorities for implementation.

AI maturity assessment process

AI Maturity Assessment questionnaire

Maturity assessment through 6 dimensions and 143 questions, rated on a scale of 1 to 5, provides a quantitative basis for further analysis.

Aggregation of results

The results are consolidated across dimensions to provide a clear view of the organization's current maturity level.

Gap analysis

The identification of deviations between the current and the target state as well as the definition of ambition and appetite for risk enables focus on key areas for improvement.

Prioritization and plan creation

Findings are ranked according to business impact and complexity of implementation, thus defining priorities and action plan.

Example of gap analysis

The analysis clearly identifies the dimensions with the largest gap between the current state and the target state, which represent key areas for transformation.

The largest gaps identify key areas for focus and priority implementation of initiatives

Dimension	Current status	Desired status	Gap
Data	1.0	4.0	3.0
Technology	2.0	4.0	2.0
People	3.0	4.0	1.0
Risk, management	4.0	5.0	1.0
Strategy	3.5	4.0	0.5
Processes	5.0	5.0	0.0

Priority:
The biggest gap + business value

Output for the bank: Maturity map | Gap analysis | Priorities of initiatives | Implementation plan

Why KPMG?

KPMG d.o.o. Belgrade has specialized teams with experience in the field of IT, data management, risk management and AI, focused on improving business processes and implementing sustainable digital solutions. Through a structured approach, expertise and close cooperation with clients, we ensure reliable delivery, concrete results and compliance with regulatory and market expectations.

We understand the real state of AI in banks

We view AI as part of a broader transformation of risk management, with a focus on maturity assessment, identification of key gaps and compliance with regulatory expectations (NBS, DORA, model risk, data management).

From assessment to implementation

We don't stop at analysis, we define concrete priorities and practical steps for scaling AI initiatives and establishing a sustainable governance and control framework.

Proven ability to deliver

Structured approach, close cooperation with client teams and focus on concrete results within clearly defined deadlines.

Part of the KPMG network

We combine a local understanding of the banking and regulatory environment with global AI, risk and data practices, with direct access to expertise and experience through the CEE cluster:

- Local expertise and NBS regulations
- Global AI and risk framework
- Global leader in AI, data and automation services (according to HFS, IDC, Forrester)
- Recognized in cloud and platform services (according to Gartner, IDC MarketScape)
- Leader in cyber domains through leading industry rankings according to (IDC MarketScape, Forrester)

Contact us

If you are interested in learning more about the ways in which KPMG can support the improvement of your business through AI, please do not hesitate to contact us.



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