Innovate with AI and Cloud Scale Databases in Every App

Artificial Intelligence plays a crucial role in building competitive advantages in the market.

Whilst data is the new oil, analytics is the combustion engine

Data Science and AI are opening a range of unprecedented opportunities to use data in an organization. Successful implementation of AI algorithms allows building competitive advantages in many areas, such as sales, marketing, customer service, procurement or risk management.

Adopting AI and Advanced Analytics

Artificial Intelligence (AI) is revolutionizing the way organizations operate and compete in the marketplace. With its ability to analyze vast amounts of data, identify patterns and insights, and make predictions, AI is transforming business processes, enhancing decision-making, and creating new opportunities for growth. In this era of digital transformation, AI has become a key driver of business success, and organizations that harness its power are gaining a significant competitive advantage.

Understanding the crucial role of AI in organizations can help discovering real value and accelerate growth:

Predictive Analytics
leveraging AI in forecasting processes.

Prescriptive Analytics
generating recommendations and enabling what-if scenarios.

Cognitive Analytics
automation with image, text and audio processing.

From retrospective to Advanced Analytics

Various levels of organization benefit from AI adoption. Form operational up to strategic level, algorithms impact revenue or cost factors. Analysis of historical data spots patterns and signals enable creating accurate predictions and recommendations in many areas.

Strategy – CEO, Board, Supervisory Board

Data-driven decision making, real-time monitoring, personalized strategy development, predictive modelling

Marketing – CMO, Brand Managers, Media Planners

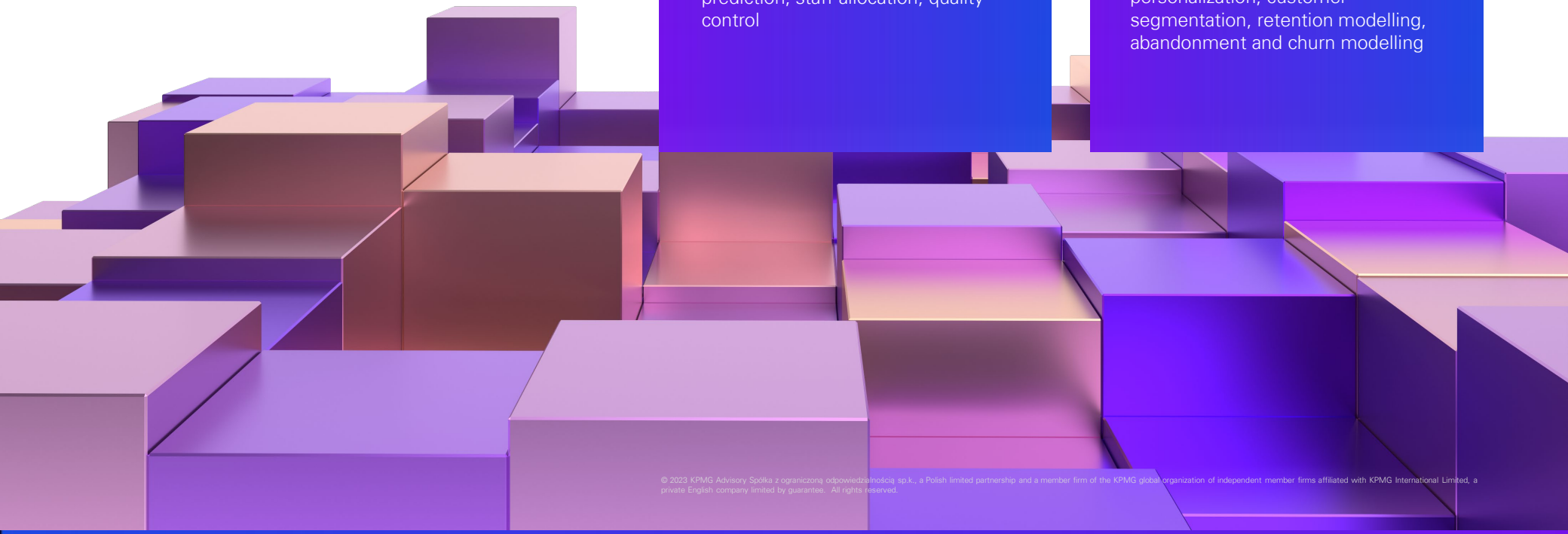
Social Listening, campaign optimization, microtrends identification, personalized content

Supply Chain – CSCO, Logistics Managers, Demand Planners

Sales forecasting and S&OP downstream, delivery on time prediction, staff allocation, quality control

Sales – CSO, Managers, Representatives

Pricing recommendations, customer value potential modelling, hyper-personalization, customer segmentation, retention modelling, abandonment and churn modelling



Creating Cloud-Based Data Environment - Why Cloud?

In order to create the value and support business, organizations need to develop an infrastructure, which covers variety of aspects: servers, hardware, storage, analytical and visualization software. As the data is usually collected from multiple sources, the architecture might be developed purely on-premise or it can be supported with cloud-based solutions to create hybrid-cloud or pure-cloud environment. What can be the benefits of incorporating cloud-base analytical solutions?

COSTS AND PROCESS EFFICIENCIES

Scalability on demand

For majority of services you may choose what level of performance your component needs. Cloud offers server-less compute options and can be scaled accordingly to demand

Cost-efficiency

Cloud services and resources are mainly in pay-as-you-go model that enables businesses to only spend for what they use. Using cloud services also mean that organizations don't need to acquire and maintain additional hardware.

DECISION MAKING

Supports advanced analytics and AI

Available cloud storage and processing capabilities streamline advanced analytics. Cloud BI tools enable creating data models and generate valuable insights for business decisions.

Sharing insights

Cloud makes it easier to manage access and share data and insights – can enable live access and sharing within and outside of an organization which enables quick and data-driven decision making.

SECURITY

Access control

Cloud services provide more granular control of data access and increased auditing capabilities.

Data backup and disaster recovery

Many cloud services give the company ability to automatically do the backups and disaster recovery.

Why digital transformation?

On-premise challenges

As the on-premises solutions might bring potentially higher freedom of control over the infrastructure and data, the biggest barrier is that it is time-consuming, expensive (investments in hardware and people) and requires skills to leverage advantages.

Cloud - future oriented

Using cloud-based solutions is becoming part of the future of data technology as cloud providers constantly invest their resources to make their services more secure, robust and innovative, which enables leveraging Machine Learning and AI solutions to take the analytics and decision making to a different level.

Key challenges in AI implementation

The availability of cloud-based tools has made it more feasible for organizations to widely adopt AI streamlining the deployment process and offering solutions to common challenges.

How to manage data sources and assure quality?

Organization can struggle with managing data from multiple sources – different systems, applications, vendors, manually generated input and others. Before the data is ready to be used it needs to be extracted, processed, transformed and stored. Microsoft brings cloud components that helps doing that e.g.:

- **Azure Data Factory** pipelines and **Databricks** notebooks can integrate data from different sources and databases (on-premise and cloud);
- **Azure Data Lake** enables storage of structured, unstructured and semi-structured data in all types of formats (providing scalability, performance and security on-demand) on every step of data transformation;
- **Azure Machine Learning** Datasets allow easy access and data versioning from the Data Science layer.

Creating the scalable platform with powerful processing power and huge capacity makes a foundation for advanced analytics and generating insights.

Data Lake | Data Bricks | Data Factory | Azure Machine Learning

How do I manage the work of Data Science team effectively?

One of the key challenges is collaboration between Data Scientists during the experimentation phase. Unified platform and work ecosystem bring synergies between team members. Azure Notebooks and Azure Machine Learning Experiments Tracking allow Data Scientists and Machine Learning Engineers to collaborate effectively.

Azure Machine Learning

How to decrease time to market of AI solutions?

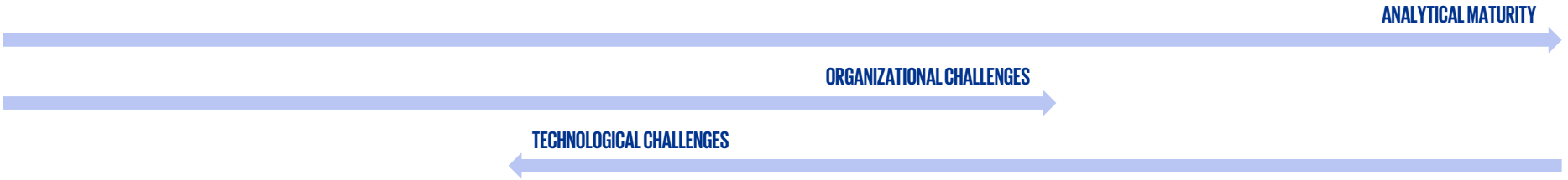
Bringing algorithms to production and scaling them up are the most time-consuming phases of each AI Project. Robust deployment framework (**Azure Machine Learning Studio**) and seamless code encapsulation shortens this time even by 60%. Combining this features with ready-to-go pretrained ML models (**Azure Cognitive Services**) bring even more savings and provide State of the Art accuracy benchmarks.

Azure Machine Learning | Azure Cognitive Services

Key aspects of AI adoption

Despite the potential benefits of Artificial Intelligence, the successful adoption requires organizational and procedural readiness including: careful planning, strategic decision-making and commitment to address the challenges that arise.

Organizations that are able to devote and overcome challenges can reap the benefits of AI, including increased efficiency, improved decision-making, and enhanced competitiveness.



Evangelization	Use Case Hunting	Pilots	Deployment	Scaling-up	Maintenance
Understanding of AI in the organization	Process definition	Evaluation of the information value of data	Parameterization	Reusable components	Ensuring availability of the solution
Preparing for change	Business metrics	Simulation (retrospective) evaluation of IS effectiveness	Building an application or batch process	Parallelization of processing	Stability monitoring
Appropriate business owners	ROI analysis	Evaluation of data availability and quality	Introduction to production	Computational optimization	Model lifecycle management
Mandate within the organization to manage the change			Production testing		Connecting with other AI models

AI Adoption is a multi-step process which KPMG Team can support at each stage

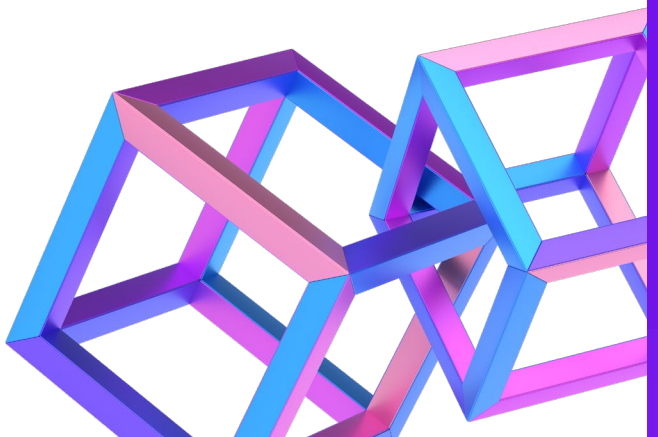
There are many challenges on the way to achieving success in Artificial Intelligence implementation. Only 15% of all initiatives using AI are completed with success defined as implementation into daily business processes. This low percentage is associated with risks that must be identified and mitigated in order to succeed. With extensive experience, in AI implementations on a global scale, our team can help you overcome the challenges of the AI world, identify risks, and wire your solution for success.

KPMG offers a full range of services in order to unlock the value of AI, covering both the technical and business support:

- Development of AI strategy (business, technical and process)
- Identification of AI Use Cases and their monetary potential
- Business analysis for AI implementation, including definition of KPIs
- Delivery of Machine Learning models:
  - Predictive: forecasting, risk assessment, customer segmentation
  - Prescriptive: pricing, promo and x-sell recommendations
  - Cognitive / Deep Learning: Customer feedback automation, Social Listening, Optical Quality Assessment
- Deployment and scaling of AI Use Cases
- Deployment of cloud infrastructure serving Data Science and ML/AI use cases
- Platforms for Data Scientists set up
- Data Science delivery process optimization
- Audit of existing solutions

With use of Microsoft Azure solutions, KPMG offers a full support to create efficient environment and drive innovations leveraging AI that brings true value:

- Better decision-making
- Positive impact on company's top line and bottom line
- Saving costs with improved operational efficiency
- Enhancing customer experience
- Leveraging data-driven innovation



KPMG in Poland
Inflancka 4A
00-189 Warsaw
T: +48 22 528 1100
E: kpmg@kpmg.pl

Radoslaw Kowalski
Partner
Data Intelligence Solutions
Business Advisory
E: rkowalski@kpmg.pl

Łukasz Dylewski
Director
Data Science
Business Advisory
E: ldylewski@kpmg.pl

Michał Walanus
Director
Data Intelligence Solutions
Business Advisory
E: mwalanus@kpmg.pl

KPMG Poland

kpmg.pl