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REPORT

From Hype to Impact: How Financial Services Organizations Can Unlock Real Business Value with AI

Nascent, Complacent or Somewhere Adjacent, the Time to Act is Now

Contents

Foreword

Artificial Intelligence (AI) has become integral to financial services, driving critical applications like transaction screening, fraud detection and streamlined customer onboarding. In leveraging these applications, banks have been able to reduce expenses, automate back-office processes and improve customer satisfaction. However, the advent of Generative AI (GenAI) is poised to add an entirely new dimension to the disruption the industry faces.

Leveraging GenAI, banks are on the precipice of bringing to market powerful new opportunities, including hyper-personalized onboarding experiences, personally tailored financial advice and significant efficiency gains in Know-Your-Customer (KYC) processing. Further complicating the matter, the financial services (FS) sector faces rapid and profound changes driven by new customer expectations, intensified regulatory pressures and competition from Big Tech, digital banks and blockchain-based innovators.

In this report, we examine how financial services executives and engineers perceive these developments, identifying key challenges, industry comparisons and unique obstacles in their AI maturation journeys. Crucially, we emphasize the importance of aligning AI strategy with broader business objectives and underscore that human factors—talent, leadership and governance—are essential for successful AI deployment.

Drawing from extensive research among 925 financial services executives and engineers, this report provides actionable insights and practical recommendations to help organizations navigate this transformative period and harness AI's full potential.

DENNIS JOOSTEN
Head of Banking Practice, EMEA

Key Findings

In late 2024, EPAM conducted proprietary research by surveying 7,375 executives and engineers at organizations across industries, including financial services, insurance, retail, energy, TME (Telcos, Media & Entertainment) and more. The full report can be found **here**.

Included in this cohort are responses from 925 executives and engineers from the financial services industry, providing insight into their views on the maturation journey of AI and the road ahead. Below is a breakdown of high-level results and key findings.

ON THE PERCEPTION OF MATURITY

Ranked #1

Respondents within financial services organizations reported they were **"advanced" in their AI maturation journeys**, the highest rate among all eight industries we surveyed in this research.

57%

The percentage of **FS executives and engineers who view their organization as "advanced"** on their AI maturation journey.

4%

The percentage of **FS executives and engineers who view their organization as "disruptors"** in their AI maturation journey.

WHY IT MATTERS

While AI and machine learning have long been employed by banks to aid in risk analysis, fraud detection and other activities, the innovation only recently made possible by GenAI enables a new world of applications and possibilities.

This explains why only 57% of our financial services respondents view their organization as "advanced."

ON TALENT

5%

The percentage of FS respondents who believe **81-99% of employees will need retraining** to acquire AI skills in the next 18 months.

21%

The percentage of FS respondents who identified the **leadership and technical abilities of organizational leaders as the top challenge** their organization has encountered in adopting AI.

22%

The percentage of FS respondents who identified **"training and enabling current employees" as the top challenge** their organization has encountered in adopting AI.

WHY IT MATTERS

Talent is clearly an organizational challenge that must be addressed, both from the perspective of employees and those in leadership.

Massive reskilling and retraining will be necessary across the financial services industry, both to enable the workforce and to make sure AI is leveraged in an ethical, compliant manner.

ON INFRASTRUCTURE

Ranked #1

Protecting data was ranked as the top challenge within the financial services industry by organizations adopting AI.

Ranked #1 & 2

Financial services respondents ranked **cloud security (1) and regulatory compliance (2) as the two most important cloud considerations** when it comes to the development and deployment of AI.

Ranked #1,2,3

When it comes to AI infrastructure modernization, financial services respondents ranked their top three challenges as:

01 Security programs not being sophisticated enough for their needs

02 Cloud infrastructure not being mature enough

03 Tech stack not modernized enough to support adoption

WHY IT MATTERS

While financial services organizations consider themselves advanced in their AI maturation journey, many executives and engineers are expressing valid concerns around their security protocols and tech stacks.

Those organizations that have invested in their data and **cloud platforms** will have a significant advantage in this realm.

ON SECURITY

31%

The percentage of financial services respondents who identified **"protecting data" as the top challenge** their organization has encountered in adopting AI, the highest rated concern expressed across all industries surveyed.

50%

The percentage of financial services respondents who identified **"unauthorized access to sensitive data" as their most important security concern** when making an investment in AI.

55%

The percentage of financial services respondents who identified **"data security" as the most important data-related factor** when making an investment in AI.

WHY IT MATTERS

For businesses to successfully harness the power of AI, they must both aggressively pursue implementing AI for growth while also attacking their security weaknesses. For financial services organizations, data security represents the highest rated security concern.

As our previous **research shows**, consumers place a high degree of trust in banks to protect their data. Banks must not jeopardize that trust.

ON GOVERNANCE

Ranked #1

Of all those surveyed across industries, executives and engineers in the FS industry ranked first in asserting, **"Our leadership has a clearly defined strategy for how AI will be used to help achieve business goals."**

2%

Of the 925 financial services executives and engineers we surveyed, just 20 (2%) said **their organization already has a plan in place for a comprehensive AI governance model.**

88%

Governance is top of mind, as demonstrated by the high number of financial services institutions that have laid the groundwork: 88% of our respondents noted **they either have a Chief AI Officer in place or are planning to hire one.**

WHY IT MATTERS

It appears there's a disconnect in the financial services world between organizations leveraging AI to achieve business goals and those organizations implementing the necessary safeguards to provide appropriate levels of governance and oversight.

The Big Picture

For as omnipresent as the chatter around AI has become in the financial services industry, it's worth taking a step back to view the big picture. Given the common rhetoric around AI, it may feel like the industry has been grappling with its integration for ages, though the truth is many financial institutions are still relatively nascent in their AI maturation journeys.

Case in point, just over half (57%) of our respondents referred to themselves as "advanced" on their adoption/deployment of AI. In other words, nearly half of the banks we spoke with are still wrestling with laying the groundwork necessary to support responsible and effective deployment of AI to achieve business goals.

To date, much of the deployment of AI in the financial services industry has been primarily confined to traditional AI use cases – think back-office processes like document analysis, fraud detection, risk assessment, etc. This comes as no surprise, given the relative recency of GenAI use cases. However, these too are beginning to gain traction.

Prevalent GenAI use cases include:

- **Customer support agents**, designed to understand customer queries and provide an effective response.
- **Enhanced KYC operations**, designed to expedite the process, provide an improved customer experience and reduce manual input errors.
- **Hyper-personalization**, designed to provide tailored, personalized customer journeys and provide customers with impactful insights that resonate with their needs.
- **An enhanced Software Development Lifecycle**, aimed at boosting productivity, quality and compliance through the use of AI agents.

These advanced use cases are beginning to influence how organizations prioritize their talent. Among the eight industries surveyed (including FS), executives and engineers are prioritizing hiring for new AI-related roles to tackle use cases like productivity and operational improvement. Within financial services, over half (54%) of our respondents indicated they intended to hire up to 50 AI product managers.

However, many organizations are still making preparations or evaluating use cases. Those use cases range from customer service, where virtual assistants handle customer inquiries, to customer onboarding, where AI algorithms predict potential risks or flag data for follow up, to fraud detection, where machine learning can be used to identify trends and anomalies that could signify fraudulent activity. Correctly prioritizing these endeavors will be critical to success.

However, before AI can be deployed at scale, there are a number of critical barriers financial services organizations need to overcome. And as our research shows, there are a variety of disconnects between these barriers and the resources being aligned to overcome them.

BARRIERS TO ENTRY

Despite our respondents' confidence in being leaders/disruptors in the deployment of AI, the fact remains the financial services industry still has a lot of work to do before it can anoint itself a true pioneer.

As our research shows, there are several disconnects within the industry between the business results leaders expect AI to deliver and their level of preparedness and/or investment in the resources necessary to drive those results.

Among these disconnects, the most glaring our research uncovered include:

Talent

Intuitively, you might expect technology to be the main bottleneck in AI adoption within the financial services industry. However, our research shows that, in fact, talent was the main impediment to successful AI deployment.

Many financial institutions are hiring or intending to hire talent for a large range of AI roles, including data scientists, machine-learning experts and data analysts to handle their AI initiatives. Within the financial services industry, respondents cited talent as being a major challenge when considering an investment in AI. The top challenges pertaining to talent included: Training and enabling current employees (cited by 21.9% of financial services respondents) and hiring talent and expertise (cited by 21.7% of FS respondents).

In addition, organizations are recognizing the scope of the workload to train and upskill existing staff to gain AI expertise. Case in point, more than 5% of our FS respondents believe that 81-99% of employees will need retraining in light of AI tools and services — a staggering undertaking when you begin to break it down. That said, the majority of financial services respondents in this study believe that either 21-30% or 41-50% of employees will need retraining. Regardless of where this nets out in reality, that's a large amount of talent that will need upskilling and a major undertaking for any organization.

Data Infrastructure

Regardless of AI maturity level, our financial services respondents cited "improved productivity" and "greater operational efficiencies" as their top goals to achieve through AI deployment. However, the data shows a significant disconnect between these stated goals and the investments being made in the appropriate technology infrastructure.

Simply put, many large financial institutions have not yet made the necessary investments in building a robust data infrastructure, including data lakes and cloud technology, to accommodate vast amounts of structured and unstructured data. As our research shows, nearly a third of our financial services respondents (29.8%) noted they don't have a modernized tech stack capable of supporting AI adoption.

In addition, 29.9% stated their cloud infrastructure isn't yet mature enough. The ability to process and analyze huge volumes of data effectively is critical for implementing AI, and it appears there is still a lot of work to do in building out those capabilities across the industry.

Regulatory Compliance

Compared to other industries included in this research, financial services is notoriously conservative, having long placed a strong emphasis on data privacy and governance. Nearly half (49.3%) of our FS respondents identified regulatory compliance as an important security related concern when making an AI investment.

Clearly, banks are cautious of maintaining the right balance between utilizing data for AI and adhering to data privacy norms. While our research shows most organizations (across all industries surveyed) are concerned about either protecting data or preventing data loss, the highest level of concern overall was expressed by our financial services respondents.

Security

Considering the sensitivity of the data dealt with by financial institutions, cybersecurity is, not surprisingly, a critical concern. As our research shows, the highest rated security concern voiced by our financial services respondents was preventing unauthorized access to sensitive data (cited by 49.7% of respondents). Sophisticated security measures must be taken to protect data from breaches.

While security ranked as a top priority, interestingly enough our research showed businesses expect it will take roughly 18 months to roll out an effective AI governance model, highlighting another disconnect between the sensitivity that must be taken around AI deployment and the reality of the current situation.

Collaboration & Partnerships

Often overlooked in the race to deploy AI is the importance of partnerships and collaboration. As our research shows, more than half (51.8%) of our financial services respondents cited cloud security as a top concern when deploying AI. However, only 40.5% of respondents cited “cloud vendor” as an important factor when making an investment in AI.

Logic would dictate that a strategic partnership with a trusted cloud vendor could help alleviate these security concerns. It’s this reasoning that is increasingly driving industry collaboration with FinTech and AI companies to leverage innovative and niche capabilities in data handling and AI.

Deploying & Offering Relevant AI Tools

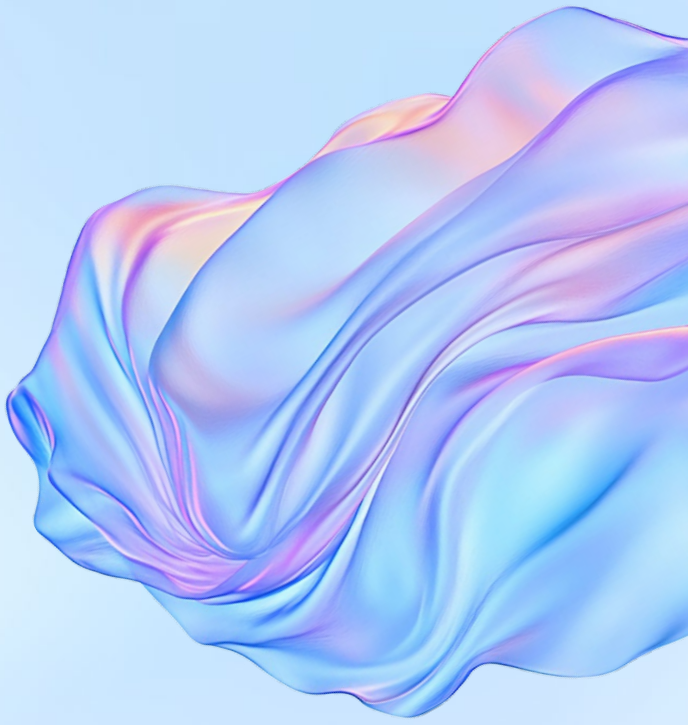
Organizations within the financial services space are starting to use more advanced tools for data management, analysis and visualization to aid their AI projects. In addition, GenAI enables plenty of use cases for offering new AI-enabled tools and services to their customers. As our research shows, the vast majority of executives and engineers expect to be hiring numerous AI product managers in the near term.

Case in point, 31.6% of FS respondents expect to hire up to 10 AI product managers, and an additional 22.4% expect to hire between 11-50 AI product managers. No matter how you slice it, there is clearly a high level of enthusiasm to deploy new tools and services. However, there is a disconnect in that the managers of those products are not currently a part of the organization.

While the financial services industry has made significant strides in its deployment of AI, the fact remains there is still a lot of work to be done to eliminate bottlenecks and address these valid disconnects.

Just like in previous bouts of technological disruption, the industry is being constrained due to issues such as data silos and outdated legacy systems.

However, based on the enthusiasm we see in this research, it’s clear the transformative potential of AI is rapidly driving investment. And it’s on that drive where attention needs to be focused now. Whether your organization considers itself a pioneer or you’re only just now considering how to leverage AI, special care needs to be taken to ensure investments are made in the right areas at the right time, all in alignment with your business goals and objectives.



Systematic Approach to Enabling AI

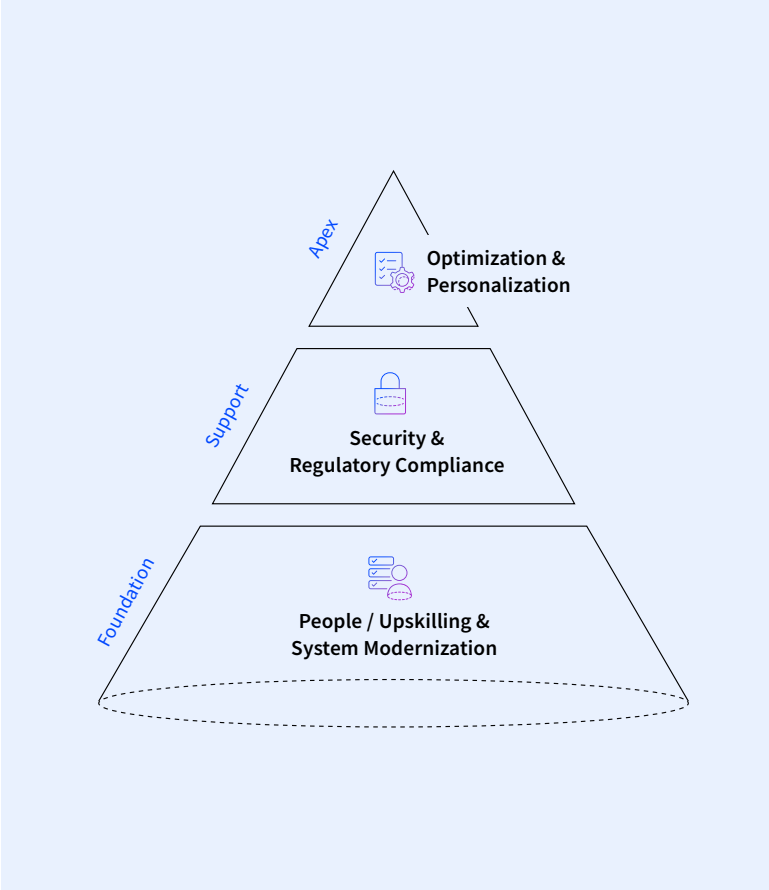
FOUNDATION

People/Upskilling

- **Leadership:** Significant investments must be made to employ data scientists and AI experts, and to upgrade data infrastructure to make it AI-ready.
- **Skill Development:** Banks must invest in training their staff to understand AI, machine learning and data analytics. When employees understand these technologies, they can contribute effectively to their implementation.
- **Vendor Selection:** Leaders need to select the right vendors or partners who have a proven track record in implementing AI solutions in the banking sector.

Technology

- **Modernized, Cloud-Based Systems:** Cloud-based systems allow for the scalable, flexible storage and processing of large amounts of data, necessary for AI algorithms to function effectively. These systems enable real-time data processing, which is critical for AI applications like predictive analysis and customer behavior modeling and collaboration across different aspects of banking operations.
- **Data Structure:** Organizations produce large volumes of real-time transactional and customer behavior data. This data needs to be made accessible in real-time. Silos must be broken down and internal systems must be enabled to communicate in order to allow for the data-driven decision-making and operational efficiencies made possible by AI.



SUPPORT

- **Security:** Sophisticated security measures must be taken to protect data from breaches and unwarranted access. Failure to do so can result in fines, fees and reputational damage.
- **Regulatory Compliance:** It's essential for banking leaders to make sure their AI adoption strategies are in line with regulatory requirements, especially those around data and its usage. In addition, leadership must implement ethical guidelines for AI usage to ensure that it's used responsibly

APEX

Optimization

- **Optimizing Costs and Operations:** Once all other components are in place, FS organizations can make the pivot to successfully leveraging AI across their operations to control costs by automating certain processes. This includes automating operations like fraud detection, customer service, risk management and reporting. In many instances, AI and GenAI can help reduce input errors, accelerate processes and lower overall operational costs.
- **Driving Personalized Customer Experiences:** Leveraging the full extent of customer data, organizations can employ AI tools and algorithms to offer streamlined, personalized experiences in operations like KYC and anti-money laundering (AML).

How to Make It Real

Research like this can be difficult to apply, especially in an industry like financial services where technology and regulations are so rapidly evolving. At the end of the day, every organization is unique, and every organization will be at different stages of their AI maturation journey.

While most organizations will have implemented some form of AI or ML for basic use cases, far fewer have strategically deployed AI as an enterprise tenet thus far. Yet, universally, respondents acknowledge that AI will be fundamental to delivering both differentiation as well as value to their customers sooner rather than later.

That said, there are four very important lessons that can be gleaned from this research that, regardless of where you might be in your AI journey, can have profound impacts on your ability to derive real value from the implementation of AI.

01

WHAT THE RESEARCH SHOWS

Many financial services organizations self-reported being a long way from reaching maturity when it comes to governance. However, effective governance models will be crucial to unlocking value through AI.

How to Address Governance Shortcomings

- Establish an AI governance body
- Define leadership roles for AI governance
- Develop clear AI policies
- Invest in training and awareness
- Monitor and adapt as your governance framework evolves

02

WHAT THE RESEARCH SHOWS

Human expertise will be vital to delivering value through AI adoption, requiring organizations both to hire and onboard new talent and provide effective upskilling to the current workforce.

How to Address the Talent Gap

- Prioritize and provide executive sponsorship to the most important use cases
- Inventory your organization's skills
- Hire for the right roles
- Upskill your current teams appropriately
- Create, fuel and foster an AI-fluent culture

03

WHAT THE RESEARCH SHOWS

Many retail banks and other FS organizations will need to revisit their technology infrastructure and core systems to allow for effective AI adoption at scale.

How to Address the Technology Infrastructure Gap

- Define a technology North Star and backcast your way to an effective roadmap
- Take a systems thinking approach to address modernization complexity
- Evaluate and streamline processes for a digital-first approach
- Promote a strong feedback loop between business and tech teams
- Embrace new technology
- Align with partners and vendors who understand your technology goals and vision

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Taken individually, none of these practices should come off as novel or earth-shattering. However, when viewed holistically, the depth and the scope of the organizational transformation required to unlock the full value of AI can quickly begin to compound.

However, that's exactly how financial services organizations will need to approach this — holistically. A failure to address any one of these facets can quickly create bottlenecks, slow agility, limit resilience and expose the organization to various vulnerabilities.

04

WHAT THE RESEARCH SHOWS

Security will play a key role in fostering a safe, resilient, AI-enabled organization.

How to Effectively Foster Security

- Adopt a multiphase approach to mitigating AI threats
- Build security architecture for your AI and ML platforms
- Address existing standards and proactively prepare for regulatory compliance
- Extend and enhance your software development lifecycle (SDLC) and DevOps practices
- Take a **zero-trust approach**

Key Offerings to Help Drive Value with AI

To help financial services organizations accelerate their progress toward impactful adoption and deployment of AI products, EPAM and our partners offer a variety of services and solutions. These include:

Responsible AI Assessment

The assessment provides a score for your current responsible AI risk posture, which is based on jurisdiction and industry. For example, companies in highly regulated industries — such as finance, government and healthcare — will be held to a higher risk multiplier compared to others. Once you complete this free assessment, you will receive a comprehensive breakdown of your responses and mitigation recommendations designed to pinpoint areas of improvement for your organization.

Generative AI Advisory

To safeguard the future of your business, it's crucial to adapt swiftly to the disruptive influence of emerging technologies like **generative AI**. By promptly evaluating and integrating these innovations into your operations, you ensure your company remains at the forefront of your industry. As you navigate the potential challenges and constraints that GenAI might present, it's also important to anticipate the inescapable shifts in your operational models.

Modernizing and Future-Proofing Technology Architectures

From our position as pioneers of the MACH movement, our integrated team will help you shift to a **composable business and technology architecture**, by:

- Understanding the MACH vendor landscape and the benefits each product brings
- Helping you to reduce vendor lock-in and speed up innovation via technology diversification
- Optimizing infrastructure and maturing capabilities for improved total cost of ownership and increased sustainability
- Developing solid business cases for initial and ongoing investments in MACH-driven digital transformation
- Designing modern, enterprise-scale digital architectures utilizing innovative but proven technologies
- Implementing scalable digital commerce and digital marketing ecosystems built upon MACH foundations

Data Modernization Offering for Financial Services & Capital Markets

Developed by **First Derivative**, an EPAM company, our data modernization offering is designed to help financial services organizations successfully modernize their data platforms with an aim to help improve user experience, reduce complexity, hasten time to market, increase platform stability/resilience and/or reduce cost to run and change applications.

Methodology

WHO WE SURVEYED

AI from All Angles

In our survey, we uncovered insights from more than 7,300 participants from enterprises with headcounts of 10,000+ evenly split across the C-Suite and Vice President level as well as engineers and developers spanning nine countries and eight industries.

Countries Surveyed


US


Canada


UK


Germany


Switzerland


France


Netherlands


Singapore


Argentina

Industries Surveyed

- Financial Services
- Life Sciences & MedTech
- Education & Business Information Services
- Energy
- Retail & Consumer Product Goods
- Telco, Media & Entertainment
- Insurance
- Automotive & Manufacturing

Respondents self-selected their AI maturity level as falling into one of four categories:

- **We're just beginning with AI** by experimenting and/or developing proofs of concept
- **We're developing competency in AI:** we're utilizing AI capabilities, but results are not consistent
- **We're advanced:** we've achieved consistent results (e.g. productivity improvements, cost savings, etc.); AI has helped us be competitive in the market
- **We're a disruptor:** we're "leading the pack" in terms of internal innovation, products and alliances

About EPAM

Since 1993, EPAM Systems, Inc. (NYSE: EPAM) has used its software engineering expertise to become a leading global provider of digital engineering, cloud and AI-enabled transformation services, and a leading business and experience consulting partner for global enterprises and ambitious startups.

We address our clients' transformation challenges by fusing EPAM's integrated strategy, experience and technology consulting with our 30+ years of engineering execution to speed our clients' time to market and drive greater value from their innovations and digital investments.

We leverage AI and GenAI to deliver transformative solutions that accelerate our clients' digital innovation and enhance their competitive edge. Through platforms like EPAM AI/RUN™ and initiatives like DIALX Lab, we integrate advanced AI technologies into tailored business strategies, driving significant industry impact and fostering continuous innovation.

We deliver globally, but engage locally with our expert teams of consultants, architects, designers and engineers, making the future real for our clients, our partners and our people around the world.

We believe the right solutions are the ones that improve people's lives and fuel competitive advantage for our clients across diverse industries. Our thinking comes to life in the experiences, products and platforms we design and bring to market.

Added to the S&P 500 and the Forbes Global 2000 in 2021 and recognized by Glassdoor and Newsweek as Most Loved Workplace, our multidisciplinary teams serve customers across six continents. We are proud to be among the top 15 companies in Information Technology Services in the Fortune 1000 and to be recognized as a leader in the IDC MarketScapes for Worldwide Experience Build Services, Worldwide Experience Design Services and Worldwide Software Engineering Services.

Learn more at **www.epam.com** and follow us on **LinkedIn**.

EPAM's banking team excels in guiding financial transformations and ensuring compliance and security in the banking sector. Our expertise extends to digital transformation, where we design customer-centric digital banking solutions and engineer advanced banking platforms.

Our banking team includes:

PANOS ARCHONDAKIS
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DENNIS JOOSTEN
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