The new physics of financial services
How artificial intelligence is transforming the financial ecosystem

As artificial intelligence (AI) significantly changes the traditional operating models of financial institutions, shifting strategic priorities and upending the competitive dynamics of the financial ecosystem. How can financial institutions better embrace AI and prepare themselves for the future?

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Much ink has been spilled on the role of artificial intelligence (AI) in financial services. But the bulk of it has been about technical requirements or near-term trends. For those trying to understand the strategic implications of AI in the industry, the body of work has been slim.

Our Deloitte Consulting team recently joined with the World Economic Forum (the Forum) to address this gap. Over ten months, we conducted a half-dozen global workshops and more than 200 interviews with experts. The results of that research are contained in the Forum report, The New Physics of Financial Services: Understanding how artificial intelligence is transforming the financial ecosystem. This article is a summary of those findings.

Our aim is to help financial executives, regulators, and policy makers gain clarity around the ways that AI is changing the operating models of financial institutions, affecting strategic priorities and competitive dynamics, and raising challenges for public policy.

Since 2015, Deloitte has worked with the Forum to gauge the forces of change in financial services. Our work represents four years of research into ways that technology is disrupting the financial services ecosystem.

These advances are rapidly changing what it takes to build a successful business in financial services. Eventually, an unfamiliar environment will appear, one that has been reassembled to deliver new kinds of value, reshape operating models, upend competitive dynamics and take public policy into uncharted territory. The result? A great upheaval - of capabilities, resources, relationships, and potential. Old bonds will break. New ones will form in unexpected ways. The centre of gravity will shift, and where it comes to rest depends on the choices that stakeholders make today.

**Value creation**

AI is changing how financial institutions get and keep customers. Even as it commoditises traditional points of differentiation, AI offers the opportunity for significant market innovation. The one certainty is that firms must adapt their products and services for the day when AI automates customers’ financial lives - or much of it, anyway - and improves their financial outcomes.

**A new proving ground for customer loyalty**

Historically, financial institutions relied on price, speed, and access as ways to attract customers. But online platforms are making it easier for customers to compare prices. Emerging technologies are reducing instant product and service delivery to a basic expectation. And thanks to digital distribution, there’s less need for intermediaries in the course of doing business.

As the old levers become less effective, new ones emerge in their place: customisation of offerings to customers’ specific financial needs and objectives; engagement through ongoing and integrated interactions beyond financial services (such as offering forecasting services to merchants or booking repairs for auto damage); and curated ecosystems based on data from consumers, corporate clients, and third parties. These new levers will provide stronger ways for financial institutions to compete on value, retain customers, offer differentiated advice, and provide one-stop solutions.

“The opportunities of the exponential era are not limited to those new companies that have been designed to capitalise on its opportunities. Traditional organisations can learn from their non-linear competitors, and lots of opportunities exist. AI is a game changer and is one of those technologies anyone can adopt.”

Petri Heinonen, Partner, Banking lead,
Deloitte Ireland LLP
Our insight
Institutions that procrastinate in creating new ways to differentiate their products face an uphill battle at preserving margins, especially once technology normalises traditional metrics like price and speed.

Key questions to consider
- What are the most effective offerings companies can pursue?
- What does it take to be sustainably different?
- How can institutions go about implementing this change in mentality?
- What capabilities do they need to build or acquire?

Self-driving finance
Financial advice, part of every product, is often generic and impersonal. It also tends to be overly reliant on subjective advice from different customer service agents. The product and customer information needed to improve financial outcomes can be hard to pull together, both within and across institutions.

Enter self-driving finance. In this reimagined experience, consumers interact with an AI-based agent for advice and product customisation. The self-driving agent offers guidance on complex decisions such as home-buying, retirement planning, or corporate financing. At the same time, it automates routine transactions such as bill payment and refinancing. Products come from financial institutions, as they do today with human agents.

AI enables self-driving finance in three key ways. First, the technology can compare products and providers to arrive at an optimal price and fit for the customer. It also can personalise both the advice and the products it offers to a degree that isn’t economical for human agents to do. Finally, a self-driving agent can manage day-to-day finances entirely behind the scenes. It avoids fees, monitors for better deals, and more on the customer’s behalf, without the customer having to intervene.

Still unknown is who delivers the self-driving agent. Will it be incumbents, new entrants, or large technology companies? Neither is it clear how the interests of consumers will align with those of product manufacturers and self-driving agents. Put another way, the accountability framework for algorithm-driven decision-making has yet to be determined.

Our insight
As the customer experience becomes automated, fewer interactions take place between provider and customer. But the interaction points that do persist become increasingly important and centred around advice.

Key questions to consider
- How can companies stand out in a self-driving future?
- What “quick wins” can financial institutions achieve to delight customers?
- What does channel strategy look like with a self-driving channel in the mix?
Operating models

AI isn’t just for the front of the house. It also holds exciting changes for the back office, potentially improving it to the point where institutions make parts of it available as a commercial service.

From cost centre to profit centre

AI may end up prompting firms to turn their centres of excellence into services, while outsourcing most other back-office capabilities. Why? Because it’s hard to excel at everything, and over time competitors are likely to replicate the processes that are efficient but not best in class. At the same time, the processes that do achieve excellence under AI could improve so rapidly that it becomes impossible for others to catch up. At that point, the centre of excellence becomes both a defensible advantage and a sustained revenue source for the institution.

That’s not to say AI won’t affect other parts of the back office. Intelligent technologies are coming along at a time when financial institutions are looking to modernise their operations, for example by using cloud-based architecture. Moving to the cloud makes it easier to “plug and play” with third-party services. It also makes it easier to turn internal centres of excellence into commercial offerings. And if the commercial offerings are enhanced with AI, they can bring in more data for the technology to learn from and continuously improve.

Existing software-as-a-service offerings provide a blueprint for AI-based outsourced services. With that, incumbent institutions still must figure out how to build centres of excellence that are attractive service offerings. Another quandary is how to protect the value of proprietary data when firms must share that data with competitors in order to achieve minimum requirements of efficiency. The effect of data regulations on outsourced back-office processing might impact the globalisation of financial services. Finally, concerns about data security and cloud architecture have yet to be resolved.

Our insight

As the customer experience becomes automated, fewer interactions take place between provider and customer. But the interaction points that do persist become increasingly important and centred around advice.

Key questions to consider

- What capabilities does it take to build an AI centre of excellence?
- What process areas should institutions build out internally versus outsource?
- How will data regulations impact the globalisation of financial services?
Finding a balanced approach to talent

It's entirely possible that the business models and competitive dynamics that AI generates will lead to net new opportunities for talent. And success in these new business realities will be predicated on distinctively different strategies around roles, culture, and rewards. Failure to adapt could result in stalled capacity for innovation, a myopic focus on the near term and strategies that reward the status quo.

In short, the industry confronts an historic under-investment in talent and technology. To head this off, financial executives should weigh what to do differently to manage talent needs. What kinds of talent do firms need for new business models? How can humans keep pace with technological transformation?

Our insight

Financial institutions that create new talent experiences via elevated and evolved policies, processes, and structures become leading executors of business transformations.

Key questions to consider

- What are the specific talent archetypes that financial services will need to evolve and perform within new business models?
- What could financial executives do differently to manage talent transformation more effectively?
- How can financial institutions accelerate transformations when training, learning, and adapting takes place at human speed?
**Uneasy data alliances**
Partnerships may be a quick way to get the depth and breadth of data firms need for more accurate models and more complex use cases. But the risks of partnerships will be long-term. The customer experience tends to be winner-take-all, especially in platform and self-driving ecosystems. Winners gain excessive market power, enabling them to pit providers against one another. But they also gain more exposure to security and privacy risks that could break apart their partnerships. They might also end up with diminishing power of assets scale if the data gap between large techs and incumbents continues to grow. And then there’s partnership lock-in. A too-great reliance on data flows from partnerships can perpetuate relationships that serve firms poorly in the end.

Of course, all these tensions are manageable. Other firms have figured out how. Will financial institutions, especially in light of open banking? Time - as it generally does - will tell.

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**Key questions to consider**
- What products and services will be most reliant on third-party data to be competitive?
- Who will retain control of the customer experience in partnerships between tech companies and financial services firms?
- How will smaller companies negotiate effectively with large tech companies, particularly if they already have major financial services partners?
Public policy
At the centre of the AI story lies data. With expansive amounts of data powering the virtuous cycle of improvement, financial institutions may find it practical to pool what they have so they can build common solutions for non-competitive functions. If that happens, firms could not only realise mutual efficiencies in operations - they could make the financial system safer as well.

But there are regulatory issues to consider. Rules around data privacy and portability will affect the relative ability of financial and non-financial institutions to deploy AI. On top of this are AI’s potential risks to societal and economic well-being. Addressing these issues will go a long way toward encouraging institutions to adopt more transformative AI capabilities.

Collective solutions for shared problems
AI-driven utilities offer a chance to address some of the challenges of today’s financial system. They can do this by addressing data asymmetries that impede fraud prevention, anti-money laundering, and other processes intended to make our financial system safer and more reliable. A solution becomes even more important given that a problem with the process at one institution can have a ripple effect on other institutions across the ecosystem.

Since these processes are rarely strategic, and often generic across product categories, institutions might find it’s worth trading their proprietary approach for the flexibility and efficiency of a mutual one. AI can then recognise patterns across the shared dataset and develop insights on threats that cross institutional boundaries.

Our insight
Real-time scanning, using full-market data, dramatically increases institutions’ ability to head off threats and nip malicious activities in the bud. Companies like ComplyAdvantage and Shift Technology have shown significant benefits to using AI-based algorithms to monitor transactions. ComplyAdvantage claims to have achieved an 84 percent reduction in false positive alerts for anti-money laundering risk data, while Shift Technology is using AI to help insurers fight claims fraud.

Key questions to consider
→ What is the right ownership framework for collective utilities to ensure their interests are aligned with their stakeholders?
→ How will utilities, collectives, and individual institutions share liability for errors and compliance failures?
→ Is it possible to develop cross-border solutions given a growing divergence in financial and data regulations?
Regulatory and ethical dilemmas

Global data regulations are undergoing a period of unprecedented change as governments move to adopt new rules to protect and empower citizens. These rules affect the development of AI in a number of ways, including the use of cloud-based services, use of personal data and access to financial data. Other risks of AI are beyond the scope of financial regulators. They can affect such things as financial safety, global and regional economic growth, consumer protection and the public interest, employment and human capital, and the experience of other industries.

For all the good AI can and will do, its potential risks to economic and societal well-being are too great to be left to chance.

Our insight

As consumers gain control over how their data is used, they need an easy way to manage consent and authorisation. The likely solution is a digital identity system.

Key questions to consider

- What norms will develop regarding international data flows? How will divergent rules affect cross-border data flows?
- What solution is there to address consumer concerns regarding improper data usage and data sharing?
- What form will new open banking and data privacy rules take around the world, and how will it affect financial institutions?

Concluding thoughts

Understanding and adapting to AI is a journey. It’s a journey subject to the headwinds and tailwinds of economic, social, and political change. It’s also a journey no firm should take on its own.

The future of financial services lies in its ability to fully benefit from new technologies. AI is a new technology that will make front and back office operations look radically different, create major shifts in the structure and regulation of financial markets, and raise critical challenges for society to resolve. Nothing less than a collaborative effort will triumph over these challenges and unlock AI’s benefits for the best interests of business and society.

Where to go from here? We suggest the following:

- Continue with short-term value. However, don’t let short-term priorities distract from understanding the long-term implications of AI and making the appropriate investments to prepare for transformation.
- Form strategic collaborations. Rely on open forums to solve issues collectively. Meanwhile, take advantage of shared capabilities to fulfil supervisory responsibilities.
- Work with policymakers. Concentrate on the ways AI will change various segments across the system as well as on new mitigations to explore.

We’ll leave you with this thought. AI in financial services - for individual institutions, the economy, and society - is a long-haul flight. Getting it done, and done well, will take extensive and unglamorous work. Will it add complexity? Yes. Does it represent great progress? Also yes.
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