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## AI's Impact on Payments & Fintech, Part 1: Introduction

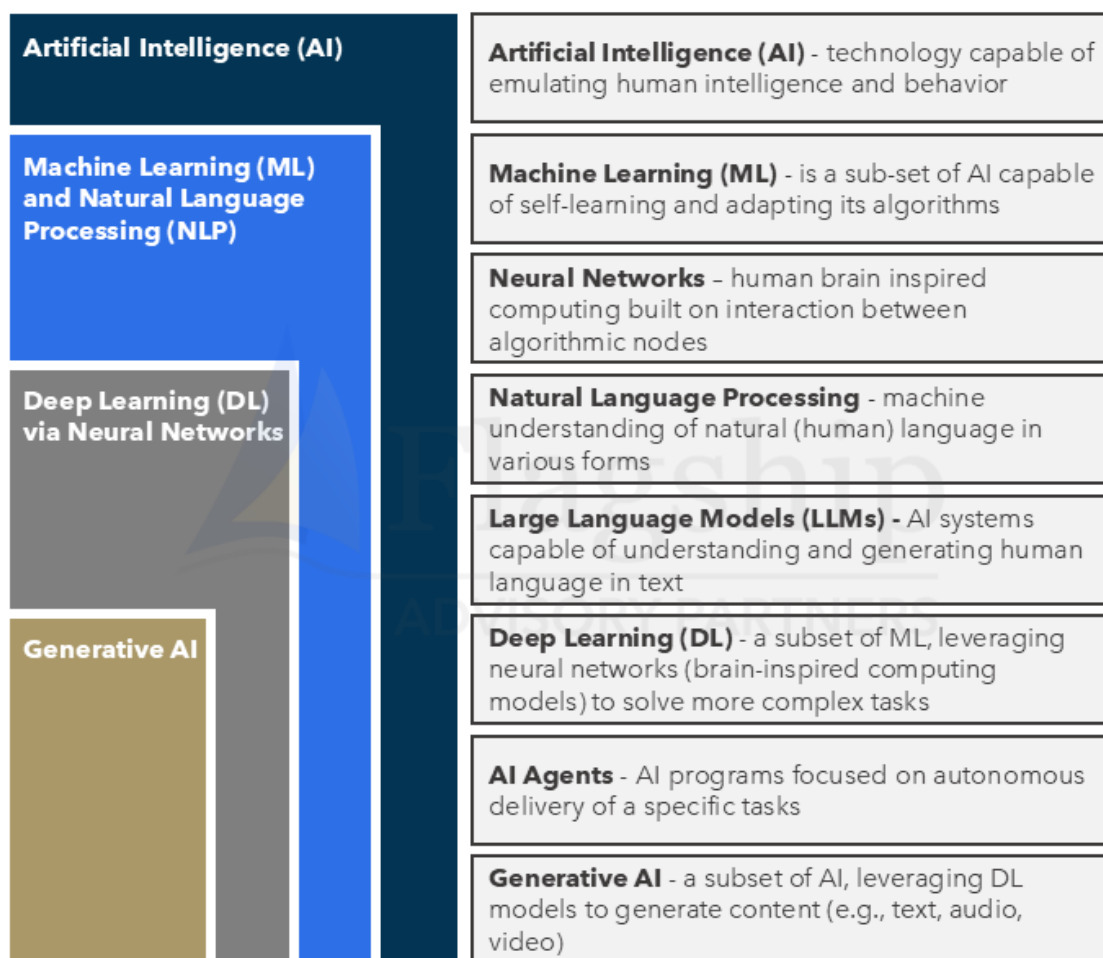
***This is Part 1 of Flagship's multi-part series assessing the potential impacts of AI on payments and fintech.***

Artificial Intelligence (AI) is all the buzz in fintech as we kick off 2025 and rightfully so. The inevitable impact of AI in financial services is massive and multifaceted. AI will change the way all of us experience financial services and reinvent performance and competitive dynamics within the industry. In this introduction to Flagship's five-part series assessing the potential impacts of AI on payments and fintech, we introduce AI, outline the historical context for AI's impact on our industry, and introduce the impacts of AI to be further explained in the subsequent parts of the series.

### What is AI?

Artificial Intelligence (AI) is a technology that mimics human intelligence, enabling machines/software to execute functions previously depended on people and our ability to create, comprehend, and make decisions. AI can deliver human-like functions, such as answering questions by providing research and learning support. AI has the potential to exceed human intelligence (the so-called point of singularity). More practically, AI can already compute and scale better than humans, potentially releasing fintech businesses from a primary constraint.

**Figure 1: Artificial Intelligence (AI) Definition**

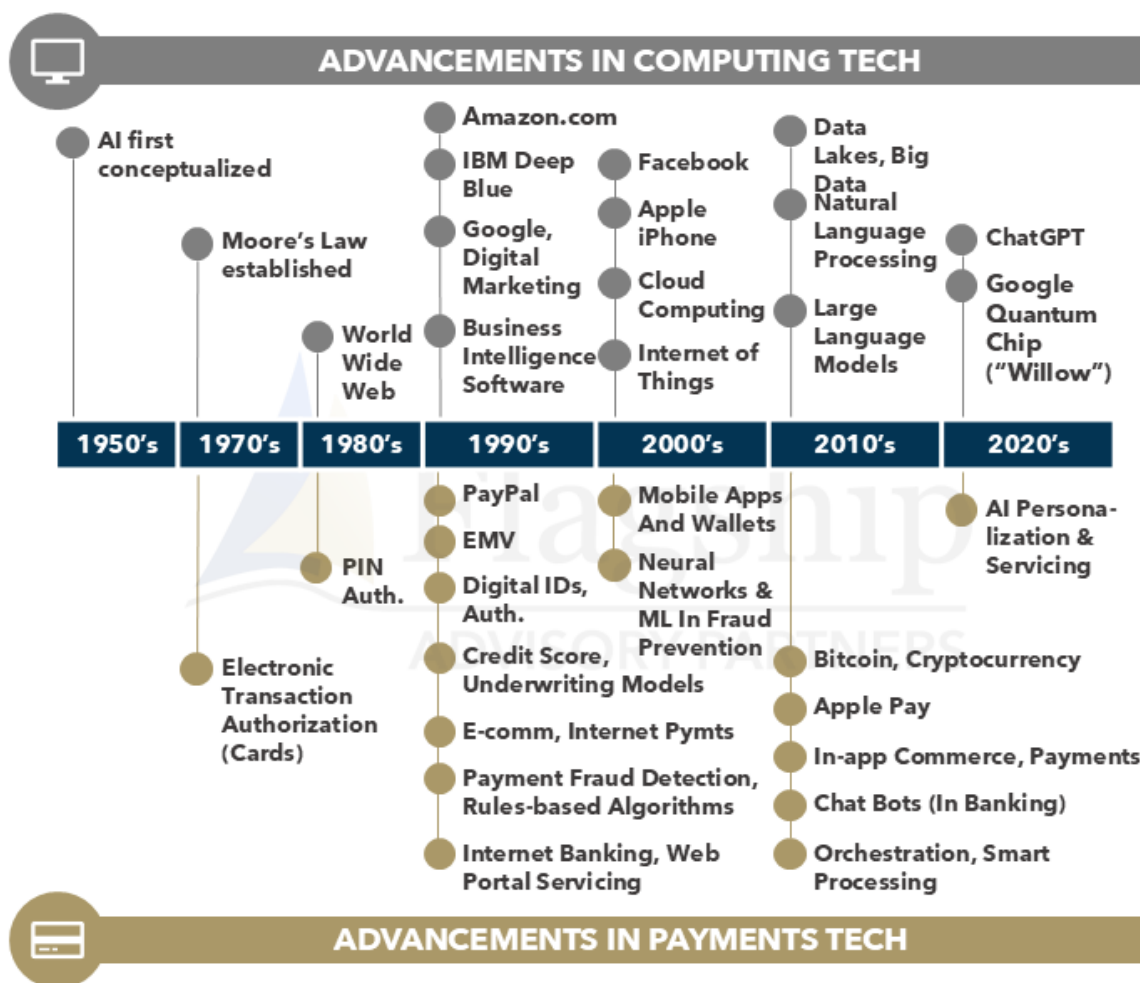


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AI relies on massive amounts of data and computing power and is the culmination of decades of technological evolution. AI builds upon a series of innovations such as machine learning, neural networks, and natural language processing, all being powered by increasingly massive computing power. These advancements, some of which originated decades ago, allow machines to ingest natural/human data inputs, learn from these inputs, and output results in our desired format. There are different types of AI, including Generative AI, a form of "Narrow AI," or AI designed for specific tasks only. GenAI is used today to generate text, sound, images, and video. Other forms of AI include Reactive Machines and Limited Memory AI, which include applications such as chatbots, autonomous driving, and playing Chess vs. a computer. AI is not yet fully aware and self-autonomous, but scientists expect these milestones in the future.

Powering today's rise of AI are numerous foundational technologies, as shown in Figure 2 below. As stated earlier, AI requires massive computing power, which is made possible via the ongoing evolution of chip technology. Massive amounts of data are another prerequisite for AI development, with most data coming from the Internet and social media/mobile applications powered by data infrastructure designed to record and store everything. Finally, AI is founded on scientific and mathematical evolutions, such as neural networks that enable machines to think.

**Figure 2: Buildup to AI in Payments & Fintech**



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## AI and Its Precursors Are Not New To Fintech

Artificial intelligence and robotics are not new to financial services. More so than most industries, financial services and especially payments, have relied on machines for decades to automate and accelerate transactions between people. Transaction authorization, credit underwriting, fraud detection, digital identities, and autonomous payments are all examples of machine-driven innovations that help us to transact on a daily basis more easily, securely, and effectively. While recognizing the decades-long technological journey to date, it is clear that AI is now pushing fintech beyond people-based dependencies. For example, fraud management models/machines are increasingly self-learning LLMs, not people-driven regression or rules-based models. We cover the impact of AI on fraud prevention in Part 2 of this series [here](#).

**Figure 3: Select Examples Of Established Robotics & AI In Fintech**

DOMAIN	AI USE CASE(S)	SELECT MARKET EXAMPLE(S) (non-exhaustive)
<b>Credit Decisioning</b>	<ul style="list-style-type: none"> <li>▪ Credit underwriting, risk decisioning</li> </ul>	
<b>Transaction Processing</b>	<ul style="list-style-type: none"> <li>▪ Real-time authorization</li> <li>▪ Routing and conversion optimization</li> </ul>	
<b>Fraud Prevention</b>	<ul style="list-style-type: none"> <li>▪ Transaction screening</li> <li>▪ Account Takeover Prevention</li> </ul>	
<b>Identity Verification</b>	<ul style="list-style-type: none"> <li>▪ Digital identities</li> <li>▪ Identity verification &amp; authentication</li> </ul>	
<b>Automated UX, Front and Back-Office</b>	<ul style="list-style-type: none"> <li>▪ Onboarding assistance</li> <li>▪ Self-service chatbots, virtual assistants</li> <li>▪ Realtime notifications</li> <li>▪ UX personalization</li> <li>▪ Automated reconciliation and other back-office functions</li> </ul>	

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In Figure 3, we list examples where the usage of machine-/AI-driven decisions and robotics are well-established in the fintech industry today:

- **Credit decisioning:** credit scoring and predictive models such as those offered by FICO have been around for decades, always evolving and improving. Underwriting processes that once took days are now done in real-time. Beyond the traditional scoring algorithms that are generally regression-trained on application and credit bureau data, AI (machine-learning) based underwriting models use broader, more comprehensive data inputs to find incremental lending opportunities.
- **Transaction decisioning:** all payments involve payer and payee decisions to accept or deny the transaction, with a card authorization being a prominent example. Once a person presents an electronic payment, machines make these decisions and have for decades. Processors (merchant and bank) and networks now deploy AI models to optimize conversion while balancing potential fraud.
- **Fraud prevention and identity verification:** paramount to making good transaction decisions, machines today recognize and validate our digital identities to avoid bad actors. Payment fraud detection is one of the most obvious examples

of AI today. In parallel, forms of digital identities and technologies used to validate our identities continue to arise and evolve.

- **Automated servicing:** servicing of financial services has migrated towards machine-based automation for many years, starting with the advent of banking chatbots in the mid/late 2010s. Self-servicing, real-time notifications, chatbots, and personalized web or app user experiences are all technologies that allow servicing without needing a person on the other end.
- **Orchestration and smart routing:** machines are now working to improve your checkout experience and to ensure your payment requests are optimized as they travel through the complex value chain of payments.

## AI Disruptions Increasingly Visible

2025 feels like a tipping point because we see and feel the buzz mounting, informed by both public and non-public observations. Publicly, there are a series of events that have us excited about AI's tangible impacts on the fintech market as we start 2025. Some of these examples/milestones are summarized in Figure 4 below.

**Figure 4: Examples\* of Recent, Notable AI Developments in Fintech**

FINTECH COMPANY	AI MILESTONE	DESCRIPTION	<i>*Non-exhaustive</i>
	▪ All in on AI	<ul style="list-style-type: none"> <li>▪ Klarna is on the bleeding edge of relying on AI, including OpenAI to transform its business</li> <li>▪ We elaborate more on Klarna's unique journey in AI later in the series</li> </ul>	
	<ul style="list-style-type: none"> <li>▪ 'Magic'</li> <li>▪ 'Sidekick'</li> </ul>	<ul style="list-style-type: none"> <li>▪ Magic helps business owners to build and manage their digital stores via AI powered content creation and other services</li> <li>▪ Sidekick is an AI assistant that recommends business improvements, including digital marketing</li> </ul>	
	<ul style="list-style-type: none"> <li>▪ 'Radar Assist'</li> <li>▪ AI 'Agent Toolkit'</li> </ul>	<ul style="list-style-type: none"> <li>▪ Radar Assistant allows users to write and configure rules via natural language instructions pattern recognition.</li> <li>▪ AI Agent SDK enables platforms/clients to integrate AI Agents directly into Stripe for instructing payments</li> </ul>	
	▪ 'Uplift'	<ul style="list-style-type: none"> <li>▪ A suite of services leveraging AI designed to optimize payments conversion and costs, including fraud decisioning and routing</li> </ul>	
	▪ Various	<ul style="list-style-type: none"> <li>▪ Visa reported in Nov. that they were using more than 500 GenAI across a range of applications including security and code testing</li> <li>▪ MasterCard announced in Oct. a collaboration with DataBricks on a GenAI onboarding assistant</li> </ul>	
	▪ Various	<ul style="list-style-type: none"> <li>▪ Deploy GenAI to improve PO and invoice automation including Optical Character Recognition (OCR) and managing exceptions and GL integration and reconciliation, among other functions</li> <li>▪ The manual processes that pervade the B2B payments value chain (A/P and A/R) are a particularly intriguing and well-suited missed for AI</li> </ul>	

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## What's Next

We recognize that the impact of AI and its precursor technologies is already highly visible in fintech. Transacting in 2025 is light-years ahead of transacting in 1975 because of machines. However, we also recognize that real-time, digital payments are just the beginning, and that AI will have far-reaching impacts on the fintech industry over the next decade. The first impact, already well underway, will be ongoing improvements to fraud management. The second (potentially most financially consequential) will be a vast expansion of operations automation; the financial services industry is still riddled with slow, inefficient manual processes that can and will be automated. The third impact will be creating better customer experiences, leading to new revenue models. Each of these waves of impact will disrupt the landscape of providers of financial services, creating winners and losers.

We will cover each of these impacts in subsequent insights published in the coming weeks, including:

- 1) AI's Impact on Fraud Prevention in Payments & Fintech (read [here](#))
- 2) AI's Impact on Operating Efficiency in Payments & Fintech
- 3) AI's Impact on Product/UX and Revenue in Payments & Fintech
- 4) AI's Potential Disruptions to Payments & Fintech Competitive Landscape

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