



# Artificial Intelligence in Finance Technology and its Sustainability

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## Abstract

As the world becomes increasingly connected through the Internet of Everything, the emergence of fintech is beginning to disrupt the financial world with trans-formative changes. Artificial intelligence is playing a major role in impacting the Fintech business. Artificial intelligence has taken the world of tech by a gust. AI in the fintech market is being used at an increasing rate and is poised to have a major impact on the industry to automate a variety of their internal processes, as well as boost their bottom line. Fintech is applied to assist, promote and support firms, business holders, investors and clients to manage their financial activities by using specialized applications and software. The purpose of this paper is to survey and examine the role of fintech as a speedier of innovative and focus on sustainable performance of fintech.

**Keywords:** Artificial Intelligence, Finance Service, Fintech, Chatbots, Machine Learning.

## Introduction

Artificial Intelligence has become a prominent trend that influences not only the Fintech and Insurtech industries, but also healthcare, business intelligence and marketing. It makes tasks proficient and lowers costs while attempting to feign human behavior. It is anticipated to take over the upcoming years and reach heights. Artificial Intelligence (AI) improves results by applying methods originated from traits of Human Intelligence at a beyond human scale. The application of artificial intelligence (AI) and machine learning (ML) is evolving in the finance market, owing to their exceptional benefits like more efficient processes, preferable financial analysis and customer engagement. According to the prediction of Autonomous Research, AI technologies will allow financial institutions to reduce their operational costs by 22%, by 2030. AI and ML are truly proficient tools in the financial sector. Financial services (FS) industry is going through rapid change in parallel to technological affordances of the industry transformation. Fintech, an umbrella term used to describe advanced technology- enabled FS business models is inducing paradigm shift in how financial service firms deliver pecuniary and non-pecuniary benefits to interacting parties. Financial firms were the early adopters of the

mainframe computer, relational databases, and have keenly looked for the next level of computational power. Inorganics Intelligence helps Fintech companies in solving human problems, by increasing efficiency. The computational arms race of last 2 decades has revolutionized the FinTech companies. Technologies like Machine Learning, Artificial Intelligence (AI), Neural Networks, Big Data Analytics, evolutionary algorithms, and much more have allowed computers to crunch huge assorted, diverse and deep datasets than ever before. As fintech is a developing market, it requires industry-specific elucidations to meet its goals. AI tools and machine learning can propose something great here. AI-based financial solutions are focused on the crucial wants of the modern financial sector such as finer customer experience, cost-effectiveness, real-time data integration, and enhanced security. Adoption of AI and allied its applications provides the industry to create a better, engaging financial environment for its customers. This article will provide an insight into the topic of artificial intelligence in finance technology and its sustainability.

## **How Fintech is Improving Finance and Banking Sector Smart Chip Technology**

Smart chip ATM cards have significantly helped in minimizing the financial loss that occur in the case of mishaps. It comes with EMV technology that is embedded in the chip. This technology uses a one-time password for each transaction. This increases the security since the code is valid only for one transaction; so, even if somebody steals it, he won't be able to do anything. Bank officials generally advise their customers to memorize their pin to avoid unnecessary hassles and troubles. Bankers are constantly looking for ways to combat thefts and frauds by providing top-notch security to its customers. As compared to smart chip, the magnetic stripe technology uses the same pin for all the transactions, thus making it more susceptible to frauds.

## **Biometric Sensors**

FinTech in banking industry has given birth to many innovations and biometric sensors is one of them. Biometric sensors along with scanners are two technological advancements that ATMs are witnessing. Moreover, these advancements are path breaking since it would simply eliminate the need to carry your plastic card. Furthermore, you won't need to remember your pin. Apart from providing convenience and ease, these advancements will also make ATMs secure than ever since you'll be able to access your own account without any password. The biometric ATMs use integrated mobile applications, fingerprint sensors, palm, and eye recognition to identify the account's owner. To make the identification more accurate and secure, ATMs also use micro-veins which completely eliminates the errors made by ATMs in customer recognition.

## **Omni-channel & branchless banking**

FinTech financial services is transforming the entire banking system from a branch-specific process to various digital channels such as online, social, and mobile. It also reduces the bank's dependency on its brick and mortar branches to function. As a result, we see many banks

reducing their number of branches by adopting the omni channel banking. Only in the European Union, around 9100 bank branches were shut down by the end of 2016.

Potential uses of Artificial Intelligence for Fintech Artificial Intelligence implement to learn and monitor user's behavioural patterns to identify rarity and warning signs of fraud attempts and incidences. Claims management can be build up using Machine Learning (ML) techniques in distinct stages of the claim handling mechanism. By leveraging Artificial Intelligence and handling a huge amount of data in a small period of time, insurers can automate handling mechanism. It can even fasten certain claims, to diminish the overall processing time and also the handling costs while enhancing customer experience. Automated financial assistants and planners assist users in making financial decisions. These comprise monitoring events, stock and bond price trends according to the user's financial goals and personal portfolio, which can help in building recommendations regarding bonds and stocks to buy or sell. These systems often called "Robo-Advisors" and are increasingly being offered both by established Financial companies and Fintech Startups. Smart wallets developed using artificial intelligence monitor and learn user's behaviour and actions. These instruct users to confine and modify their personal finance spending for saving their expenses. Insurance management with AI systems will automate the underwriting process and utilize more crude information to make better decisions for the customers. Automated agents can assist the user online, in deciding insurance requirements. Insurance usually comes into the picture after the loss has occurred. Automatic underwriting can extremely fasten up the process and often deliver expensive tests which are uncalled-for by relating several relevant data sets, even external ones that are absent in the medical records. Instead of paying for the treatments that are expensive for insurance it's better to find out the risks and diseases to prevent them. One can henceforth employ the data that was utilized before to access the risks, to then lower the chances of damages happening to the insured and also for the insurer.

## **Chatbots**

How do we feel if we are greeted by a decent sales executive at a departmental store when we enter? Everyone loves to be attended and feel valued, that is the customer service style where brands personally attend each prospect and understand what they want and help them accordingly. A similar concept also goes in the digital world. Most importantly, you don't need a dedicated human resource to attend people online. We can leverage the power of artificial intelligence and build a chatbot that understands what customers want and provide personalized responses. The chatbot will make sure that customers don't feel ignored and have unparalleled User experience when the interaction with the brand digitally. In the earlier scenario of that departmental store, some people attended people. But mind you, humans are bound to make errors, small or big. That's when chatbots can lead the way because if they are programmed expertly, there is no chance of any errors, period.

Fintech has ample opportunities in evolving bots for reducing their costs as well as human errors. Chatbots are conversational robots that use natural language processing (NLP) and artificial intelligence technology to mimic human interactions through a conversational interface. Chatbots can work for customer's convenience, managing multiple accounts, directly checking their bank

balance and expenses on particular things. Finance Chatbots can deliver human-like customer service or expert advice experience at a low cost. Chatbots can show the amount transferred, recent transactions, and available balance without even visiting a bank or ATM by simply opening a mobile phone. Customers can do payments and automated transactions directly through a Chatbot without downloading any App. Another application for chatbots is payments. A chatbot create invoices and help with different kinds of payments and transfers. By linking a paypal , googlepay or any other digital payment apps account to the chatbot, users can create a pay for orders without the need of human intervention. With the increasing bars of customer expectations, there is a need for faster, highly personalized and safer solutions in finance management. A personal virtual assistant which is just one message away has the ability to be the most favoured way of accessing data on personal finances and information on financial products. According to Gartner's prediction by 2020, consumers will manage their 85% of the relationships with the enterprise without interacting with a human. If there are no chatbots, financial companies and fintech organizations have to invest in human resources along with balancing quality assurance to provide a lasting user experience. However, because of the presence of chatbots in the fintech industry, they can ensure productive and advanced business activities and automate innovative, critical and monotonous tasks through chatbots.

## **How AI will Improve Fintech**

Fintech's traditional tech stacks weren't designed to anticipate and act quickly on real-time market indicators and data; they are optimized for transaction speed and scale. What's needed is a new tech stack that can flex and adapt to changing market and customer requirements in real-time. AI & machine learning are proving to be very effective at interpreting and recommending actions based on real-time data streams. They're also improving customer experiences and reducing risk, two additional factors motivating lenders to upgrade their traditional tech stacks with proven new technologies.

1. Lenders will increase the use of ML as the way to grow into the no- file/thin-file segments, especially rising Gen Z with little to no credit history.
2. Mortgage lenders' adoption of AI for finding qualified first-time homeowners is going to increase as more realize Gen Z (23-36- year-olds) are the most motivated of all to purchase a home.
3. Banks and other financial institutions will strengthen their business cases for AI pilots and production-level deployments by recognizing the operating expense (OPEX) savings of ML.
4. Compliance cost growth will decline even faster due to Machine Learning.
5. AI and ML will gain critical mass in collections, providing insights into which approach is the most effective for a given customer
6. If there's a downturn, ML will get blamed (even though it can actually help in a downturn)
7. 2020 is going to be a break-out year for partnerships and co- opetition as payments, lending and insurance firms vie for a growth position in embedded financial services.
8. Fintech will seek out AI and ML modeling expertise more so than build expertise and teams on their own, which will be costlier and take longer.
9. Fintech will rely on AI and ML to help close the talent gap each of them has today while also improving the effectiveness of their talent management strategies.

10. Credit unions will adopt ML soon to automate routine tasks and free up human underwriters to focus on providing more personalized services, including improvements in inquiry resolution & dispute and fraud management.

## Conclusion

The advent of cutting-edge technologies coupled with customer's demand for safe and more user-friendly banking experience has led the banks and financial services to readily adoption of FinTech finance technology. Today FinTech is bigger than ever as it includes everything that we have mentioned in this paper. In coming years, it is all set to become ever bigger with retail banking software, financial core banking software, and many other components coming under it. Only time will tell how big of an impact will FinTech have in our world.

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