



SUN'IY INTELLEKTNING MOLIYA SEKTORIDAGI QO'LLANILISHI VA RIVOJLANISH ISTIQBOLLARI

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Annotatsiya: Ushbu maqolada sun'iy intellekt texnologiyalarining moliya sektoridagi qo'llanilishi va rivojlanish istiqbollari o'rganilgan. Tadqiqot davomida bank xizmatlari, kreditlash tizimi, risklarni boshqarish hamda moliyaviy firibgarliklarni aniqlashda sun'iy intellektning ahamiyati xalqaro statistik ma'lumotlar asosida tahlil qilindi. Tahlil natijalari sun'iy intellekt moliyaviy xizmatlar sifatini oshirish, operatsion xarajatlarni kamaytirish va qaror qabul qilish jarayonlarini takomillashtirishga xizmat qilishini ko'rsatdi. Xulosa sifatida, sun'iy intellekt kelajakda moliya tizimining samaradorligi va raqobatbardoshligini oshirishda muhim omillardan biri bo'lib xizmat qilishi ta'kidlandi.

Kalit so'zlar: sun'iy intellekt, moliyaviy xizmatlar, FinTech, kreditlash, risklarni boshqarish, raqamli bank xizmatlari, moliyaviy xavfsizlik

Kirish

XXI asrda axborot-kommunikatsiya texnologiyalarining jadal rivojlanishi iqtisodiyotning barcha tarmoqlarida raqamli transformatsiya jarayonlarini tezlashtirmoqda. Ushbu jarayonlarning muhim yo'nalishlaridan biri sun'iy intellekt (SI) texnologiyalarining keng qo'llanilishidir. Xalqaro tadqiqot kompaniyalarining ma'lumotlariga ko'ra, moliya sektorida SI bozorining hajmi 2024-yilda taxminan 14,8 mlrd. AQSH dollarini tashkil etgan bo'lsa, 2025-yilda bu ko'rsatkich 17,7 mlrd. dollarga, 2030-yilga borib esa 43,2 mlrd. dollardan oshishi prognoz qilinmoqda, bu yillik o'sish sur'ati (CAGR) taxminan 19-23 foizni tashkil etadi [1; 6].

So'nggi yillarda banklar, sug'urta kompaniyalari va boshqa moliyaviy tashkilotlar o'z faoliyatiga sun'iy intellekt texnologiyalarini faol joriy etishni

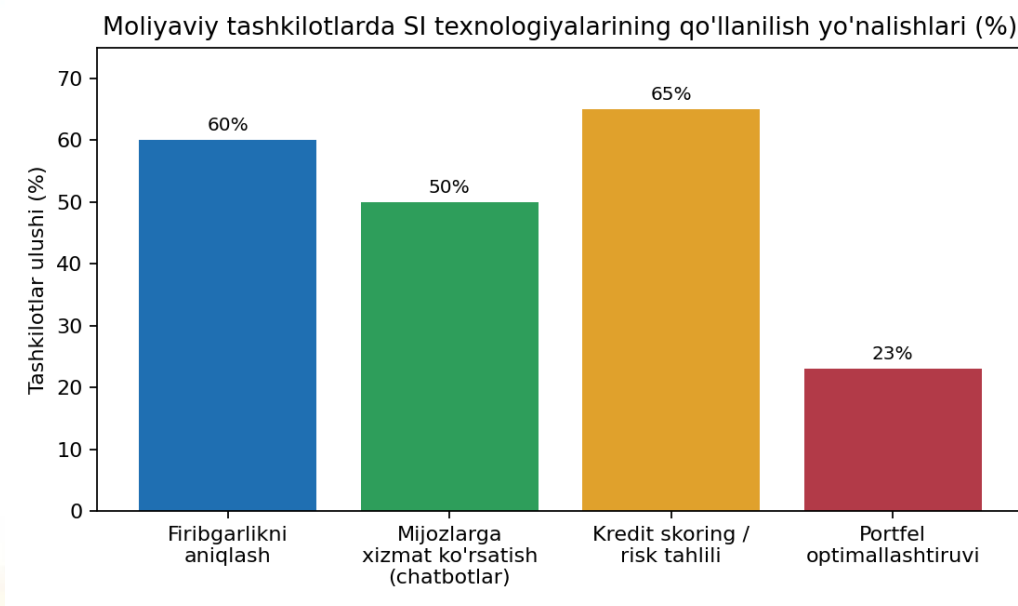


boshladilar. Tadqiqotlar shuni ko'rsatadiki, Shimoliy Amerika banklarining 98 foizgachasi 2025-yilga kelib kamida bir operatsion jarayonda SI dan foydalanmoqda, Yevropa banklarining esa 86 foizi muvofiqlik (compliance) va xizmat ko'rsatish tizimlariga SI ni integratsiya qilgan [3]. Bank va moliya tashkilotlari sohasida SI/mashinaviy o'rganish texnologiyalaridan foydalanish 2022-yildagi 45 foizdan 2025-yilga kelib 85 foizgacha o'sishi kutilmoqda [6].

Mazkur maqolaning maqsadi sun'iy intellektning moliya sektoridagi qo'llanilish yo'nalishlarini statistik ma'lumotlar asosida tahlil qilish, uning afzalliklari va mavjud muammolarini yoritish hamda kelajakdagi rivojlanish istiqbollari baholashdan iborat.

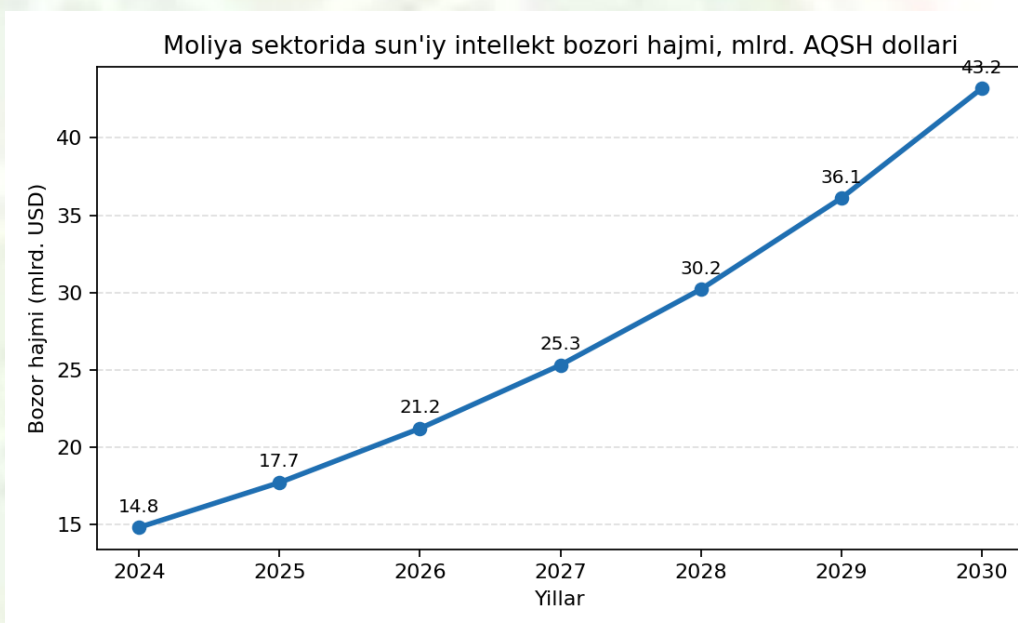
Asosiy qism. Sun'iy intellektning moliya sektoridagi qo'llanilish yo'nalishlari

Sun'iy intellekt moliya sektorida bir qancha yo'nalishlar bo'yicha faol qo'llanilmoqda. ElectroIQ tadqiqot markazi tomonidan o'tkazilgan so'rovga ko'ra, moliyaviy tashkilotlarning 60 foizi moliyaviy firibgarlikni aniqlashda, 65 foizi kredit skoring va risk tahlilida, 50 foizi mijozlarga xizmat ko'rsatishda (chatbot va virtual assistentlar orqali) sun'iy intellektdan foydalanadi. Shu bilan birga, 2023-yilda savdo (trading) operatsiyalarining taxminan 70 foizi SI algoritmlari asosida amalga oshirilgan [5]. Quydagi diagrammada moliyaviy tashkilotlarda SI texnologiyalarining asosiy qo'llanilish yo'nalishlari bo'yicha ulush ko'rsatilgan:



1-rasm. Moliyaviy tashkilotlarda sun'iy intellekt texnologiyalarining qo'llanilish yo'nalishlari, % (manba: [5] asosida muallif tomonidan tuzilgan)

Bozor hajmining yillar bo'yicha o'sish dinamikasi ham SI texnologiyalarining moliya sektoridagi ahamiyati ortib borayotganini tasdiqlaydi:



2-rasm. Moliya sektorida sun'iy intellekt bozori hajmining 2024-2030-yillardagi dinamikasi, mlrd. AQSH dollari (manba: [6] asosida muallif tomonidan tuzilgan)

Sun'iy intellekt investitsiya bozoridagi katta hajmdagi ma'lumotlarni tahlil qilib, investorlar uchun eng maqbul strategiyalarni tavsiya etadi. Bu esa investitsion



risklarni kamaytirish va daromadlilik darajasini oshirishga yordam beradi. Robo-maslahatchilar (robo-advisors) investorlarga avtomatik tarzda tavsiyalar beruvchi zamonaviy tizimlar bo'lib, ular sun'iy intellekt algoritmlariga asoslangan va rivojlangan davlatlarda keng qo'llanilmoqda. NVIDIA tomonidan o'tkazilgan so'rovga ko'ra, moliya mutaxassislarining 43 foizi SI dan operatsion samaradorlik bo'yicha foyda ko'rganini, 42 foizi esa SI raqobatdosh ustunlik yaratganini ta'kidlagan [4].

Generativ sun'iy intellekt (Generative AI) yo'nalishi alohida tezkor o'sish ko'rsatmoqda: bu segmentning global bozor hajmi 2025-yilda 1,95-2,2 mlrd. dollarni tashkil etgan bo'lsa, 2034-yilga kelib 15,7-25,7 mlrd. dollargacha o'sishi, yillik o'sish sur'ati esa 26-31 foizni tashkil etishi prognoz qilinmoqda [2; 9]. Bunday tizimlar muvofiqlik monitoringi, hisobot tayyorlash va kredit skoringni avtomatlashtirish orqali moliyaviy tashkilotlarning operatsion xarajatlarini sezilarli darajada kamaytirmoqda.

Mavjud muammolar va ularni bartaraf etish yo'llari

Sun'iy intellektning moliya sektorida keng qo'llanilishiga qaramasdan, bir qator muammolar ham mavjud. So'rovlar natijalariga ko'ra, moliyaviy tashkilotlarning 43 foizi tartibga solish (regulyatsiya) borasidagi noaniqlikni, 42 foizi sifat va aniqlik bilan bog'liq muammolarni, 39 foizi esa ma'lumotlar xavfsizligi va maxfiyligini eng katta to'siq sifatida ko'rsatgan [6]. Shu bilan birga, foydalanuvchilarning 65 foizi o'z moliyaviy ma'lumotlarining qanday ishlatilishi va himoyalaniishi haqida xavotirda ekanini bildirgan [6].

Ikkinchi muammo — malakali mutaxassislar yetishmasligi. Sun'iy intellekt tizimlarini ishlab chiqish va boshqarish uchun yuqori malakali kadrlar talab etiladi. Shu sababli oliy ta'lim muassasalarida ushbu yo'nalish bo'yicha mutaxassislar tayyorlashni kengaytirish zarur.

Uchinchi muammo sun'iy intellekt qarorlarining shaffofligi (explainability) bilan bog'liq. Ayrim hollarda algoritmlar qanday qaror qabul qilganini tushuntirish



qiyin bo'ladi. Shuning uchun ko'plab yirik moliyaviy tashkilotlar tushuntiriluvchi sun'iy intellekt (XAI) yondashuvlarini joriy etishga e'tibor qaratmoqda [4].

Mazkur muammolarni bartaraf etish maqsadida zamonaviy texnologik infratuzilmani rivojlantirish, ma'lumotlarni himoya qilish tizimlarini kuchaytirish hamda sun'iy intellekt bo'yicha milliy strategiyalarni takomillashtirish muhim ahamiyatga ega.

O'zbekistonda sun'iy intellektning moliya sektoriga joriy etilishi

So'nggi yillarda O'zbekistonda ham sun'iy intellekt texnologiyalarini moliya sektoriga joriy etish bo'yicha izchil davlat siyosati shakllanmoqda. O'zbekiston Respublikasi Prezidentining 2024-yil 14-oktabrdagi PQ-358-son qarori bilan "Sun'iy intellekt texnologiyalarini 2030-yilga qadar rivojlantirish strategiyasi" tasdiqlangan, unda davlatning sun'iy intellektga tayyorlik indeksi (Government AI Readiness Index) bo'yicha dunyoning birinchi 50 ta davlati qatoriga kirish vazifasi belgilangan. Ushbu strategiya doirasida 2025-2026-yillarda amalga oshiriladigan ustuvor loyihalar ro'yxati tasdiqlangan, jumladan Markaziy bank va tijorat banklari uchun sun'iy intellekt texnologiyalarini rivojlantirish chora-tadbirlari ham belgilab berilgan.

Mahalliy tadqiqotchilarning fikricha, sun'iy intellekt O'zbekiston bank tizimida besh asosiy yo'nalishda - kredit baholash, moliyaviy firibgarlikni aniqlash, xatarlarni boshqarish, mijozlar tajribasini optimallashtirish va ichki jarayonlarni avtomatlashtirishda - tub o'zgarish yasashi kutilmoqda. Raqamli bank ilovalari va to'lov tizimlarining tez sur'atlar bilan rivojlanishi mijozlar sonining oshishiga, bu esa o'z navbatida katta hajmdagi ma'lumotlar oqimining paydo bo'lishiga olib kelmoqda, bu esa SI yechimlarini joriy etish zaruratini yanada kuchaytiradi.

Amaliyotda O'zbekiston banklari - jumladan SQB, InfinBank, AloqaBank, Kapitalbank va O'zbekiston Milliy banki - mijozlarga xizmat ko'rsatish jarayonlarida sun'iy intellektga asoslangan ovozli va matnli kontakt-markaz tizimlarini joriy etishni boshlagan. Bunda o'zbek va rus tillarini bir vaqtda qo'llab-quvvatlash, shu jumladan bitta muloqot davomida ikki til orasida erkin almashinuvni



to'g'ri qayta ishlash muhim talab sifatida belgilangan, chunki mahalliy mijozlar amaliyotda ko'p hollarda ikki tildan birgalikda foydalanadi. Shu bilan birga, mavjud tizimlar hozircha asosan ma'lumot berish va qo'ng'iroqlarni yo'naltirish kabi bazaviy vazifalar bilan cheklangan, bu esa avtomatlashtirishning navbatdagi bosqichi so'rovlarni tizim ichida to'liq qayta ishlashga qaratilishi lozimligini ko'rsatadi.

Davlat darajasida ushbu yo'nalishni qo'llab-quvvatlash maqsadida "Sun'iy intellekt va raqamli iqtisodiyotni rivojlantirish markazi" davlat muassasasi tashkil etilgan, shuningdek Vazirlar Mahkamasining 2025-yil 10-iyuldagi tegishli qarori bilan 2025-2026-yillarda amalga oshiriladigan ustuvor loyihalar tasdiqlangan. Bunday institutsional qadamlar mamlakatda sun'iy intellekt sohasidagi kadrlar salohiyatini oshirish, texnik infratuzilmani yaratish va moliya tashkilotlari uchun zarur normativ-huquqiy bazani shakllantirishga xizmat qiladi, bu esa o'z navbatida xalqaro tajribada kuzatilayotgan tendentsiyalarning O'zbekiston moliya bozorida ham tezroq qaror topishiga zamin yaratadi.

Xulosa

Tadqiqot natijalari shuni ko'rsatadiki, sun'iy intellekt texnologiyalari moliya sektorining samaradorligini oshirishda muhim ahamiyat kasb etadi. Keltirilgan statistik ma'lumotlarga ko'ra, bank xizmatlarini avtomatlashtirish, kredit risklarini baholash, moliyaviy firibgarliklarni aniqlash (60 foizgacha tashkilotlarda) va investitsiya faoliyatini takomillashtirishda SI keng qo'llanilmoqda, bozor hajmi esa 2030-yilgacha 43 mlrd. dollardan oshishi kutilmoqda. Shu bilan birga, sun'iy intellektni moliya sektoriga joriy etishda ma'lumotlar xavfsizligi, algoritmlarning shaffofligi va malakali mutaxassislar yetishmasligi kabi muammolar mavjudligicha qolmoqda.

Kelgusida sun'iy intellekt texnologiyalarining yanada rivojlanishi, xususan generativ SI va agentlik (agentic AI) tizimlarining keng joriy etilishi moliya bozorining barqarorligi va raqobatbardoshligini oshirishga xizmat qiladi. O'zbekiston misolida ko'rinib turibdiki, davlat siyosati darajasida qabul qilingan strategik hujjatlar va institutsional islohotlar mahalliy moliya tashkilotlarida sun'iy



intellekt yechimlarining tezroq va samaraliroq joriy etilishiga zamin yaratmoqda. Shunday ekan, sun'iy intellekt moliya sektorining innovatsion rivojlanishida muhim omillardan biri bo'lib qoladi.

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APPLICATION OF ARTIFICIAL INTELLIGENCE IN THE FINANCIAL SECTOR AND DEVELOPMENT PROSPECTS

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Abstract

This article examines the application of artificial intelligence (AI) technologies in the financial sector and explores their development prospects. During the research, the significance of AI in banking services, lending systems, risk management, and detection of financial fraud was analyzed based on international statistical data. The analysis results demonstrated that artificial intelligence contributes to improving the quality of financial services, reducing operational costs, and optimizing decision-making processes. As a conclusion, it was emphasized that artificial intelligence will serve as one of the key factors in enhancing the efficiency and competitiveness of the financial system in the future.



Keywords: artificial intelligence, financial services, FinTech, lending, risk management, digital banking services, financial security

Introduction

In the 21st century, the rapid development of information and communication technologies is accelerating digital transformation processes across all sectors of the economy. One of the key directions of these processes is the widespread application of artificial intelligence (AI) technologies. According to data from international research firms, the AI market in the financial sector was approximately \$14.8 billion in 2024, is forecast to reach \$17.7 billion in 2025, and is projected to exceed \$43.2 billion by 2030, representing a compound annual growth rate (CAGR) of approximately 19–23% [1; 6].

In recent years, banks, insurance companies, and other financial institutions have actively begun integrating AI technologies into their operations. Research shows that up to 98% of North American banks are using AI in at least one operational process by 2025, while 86% of European banks have integrated AI into compliance and customer service systems [3]. The use of AI and machine learning technologies in banking and financial institutions is expected to grow from 45% in 2022 to 85% by 2025 [6].

The purpose of this article is to analyze the directions of AI application in the financial sector based on statistical data, to highlight its advantages and existing challenges, and to assess future development prospects.

Main Section. Directions of AI Application in the Financial Sector

Artificial intelligence is actively applied in the financial sector across several key directions. According to a survey conducted by the ElectroIQ research center, 60% of financial institutions use AI for fraud detection, 65% use it for credit scoring and risk analysis, and 50% use it for customer service (through chatbots and virtual assistants). Furthermore, approximately 70% of trading operations in 2023 were carried out based on AI algorithms [5]. The following diagram illustrates the share of AI technology applications by primary use case in financial institutions.



The growth dynamics of market size over the years further confirm the increasing importance of AI technologies in the financial sector. Artificial intelligence analyzes large volumes of data in investment markets and recommends optimal strategies for investors, helping to reduce investment risks and increase profitability levels. Robo-advisors are modern systems that automatically provide recommendations to investors based on AI algorithms and are widely used in developed countries. According to a survey conducted by NVIDIA, 43% of finance professionals reported benefiting from AI in terms of operational efficiency, while 42% noted that AI has created a competitive advantage [4].

Generative AI is showing particularly rapid growth: the global market size of this segment was \$1.95–2.2 billion in 2025 and is projected to grow to \$15.7–25.7 billion by 2034, with an annual growth rate of 26–31% [2; 9]. Such systems are significantly reducing the operational costs of financial institutions through the automation of compliance monitoring, report preparation, and credit scoring.

Existing Challenges and Ways to Address Them

Despite the widespread adoption of AI in the financial sector, a number of challenges remain. According to survey results, 43% of financial institutions cited regulatory uncertainty as the greatest obstacle, 42% pointed to quality and accuracy issues, and 39% identified data security and privacy as the main barrier [6]. Additionally, 65% of users expressed concern about how their financial data is used and protected [6].

The second challenge is a shortage of qualified specialists. Developing and managing AI systems requires highly skilled personnel. For this reason, it is essential to expand the training of specialists in this field at higher education institutions.

The third challenge is related to the explainability of AI decisions. In some cases, it is difficult to explain how algorithms reached a particular decision. For this reason, many large financial institutions are focusing on implementing Explainable AI (XAI) approaches [4].



To address these challenges, it is essential to develop modern technological infrastructure, strengthen data protection systems, and improve national strategies on artificial intelligence.

Implementation of Artificial Intelligence in Uzbekistan's Financial Sector

In recent years, a consistent state policy has been forming in Uzbekistan to introduce AI technologies into the financial sector. The “Strategy for the Development of Artificial Intelligence Technologies until 2030” was approved by Presidential Decree No. PQ-358 of October 14, 2024, which set the goal of entering the top 50 countries in the Government AI Readiness Index. Within this strategy, a list of priority projects to be implemented in 2025–2026 was approved, including measures for developing AI technologies for the Central Bank and commercial banks.

According to local researchers, artificial intelligence is expected to bring fundamental changes to Uzbekistan's banking system in five key areas: credit assessment, financial fraud detection, risk management, customer experience optimization, and internal process automation. The rapid development of digital banking applications and payment systems is leading to a growing number of clients, which in turn generates large volumes of data flows, further increasing the necessity of implementing AI solutions.

In practice, Uzbek banks — including SQB, InfinBank, AloqaBank, Kapitalbank, and the National Bank of Uzbekistan — have begun implementing AI-based voice and text contact center systems in customer service processes. A key requirement is the simultaneous support of Uzbek and Russian languages, including proper processing of code-switching between the two languages within a single conversation, as local customers frequently use both languages together in practice. However, current systems are still largely limited to basic functions such as providing information and routing calls, indicating that the next phase of automation should focus on full in-system processing of requests.



To support this direction at the state level, the “Center for the Development of Artificial Intelligence and the Digital Economy” has been established as a state institution. The corresponding Resolution No. 425 of the Cabinet of Ministers dated July 10, 2025 approved priority projects to be implemented in 2025–2026. Such institutional steps serve to build AI capacity in the country, create technical infrastructure, and establish the necessary regulatory and legal framework for financial institutions, which in turn creates the conditions for the international trends observed in global practice to take root more quickly in Uzbekistan’s financial market.

Conclusion

The research results demonstrate that artificial intelligence technologies play a crucial role in enhancing the efficiency of the financial sector. According to the statistical data presented, AI is widely used for automating banking services, assessing credit risks, detecting financial fraud (in up to 60% of organizations), and improving investment activities, with the market size expected to exceed \$43 billion by 2030. At the same time, challenges such as data security, algorithmic transparency, and a shortage of qualified specialists remain unresolved in the implementation of AI in the financial sector.

In the future, the further development of AI technologies — particularly the widespread introduction of generative AI and agentic AI systems — will contribute to enhancing the stability and competitiveness of the financial market. As exemplified by Uzbekistan, strategic documents and institutional reforms adopted at the state policy level are creating the conditions for faster and more effective implementation of AI solutions in local financial institutions. Therefore, artificial intelligence will remain one of the key factors in the innovative development of the financial sector.



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