Cool Vendors in AI for Banking and Investment Services

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Banks are looking at ways to improve customer experience via usage of the artificial intelligence suite of technologies. We identify emerging vendors using AI-based technologies for banking and investment services that technology and service providers seeking to develop tools should watch.

Key Findings

- In terms of artificial intelligence (AI) digital maturity, banks are starting to ramp up their adoption rate, which is at 37%, higher than in earlier years.

- Customer experience is one of the top three business drivers for retail banks, and most of the adoption is still focused on chatbots in banking.

- AI tools are increasingly showing up in products and services that provide efficient ways for banks to absorb the solutions across their activities.

Recommendations

As a technology and service provider looking into AI for the industries marketplace, you should:

- Identify and contact decision makers — including center of excellence leaders for AI or data science in banks — with pointed go-to-market messages about your solutions that would target the root cause of customer experience problems.

- Target retail banks with a customer experience angle because it is the topmost priority of the C-level suite, and show concrete results from your effective solutions that target the customers.

- Partner with system integrators or managed service providers that have a robust client base in banks and that are looking to partner with vendors that are ahead in the AI technology race.

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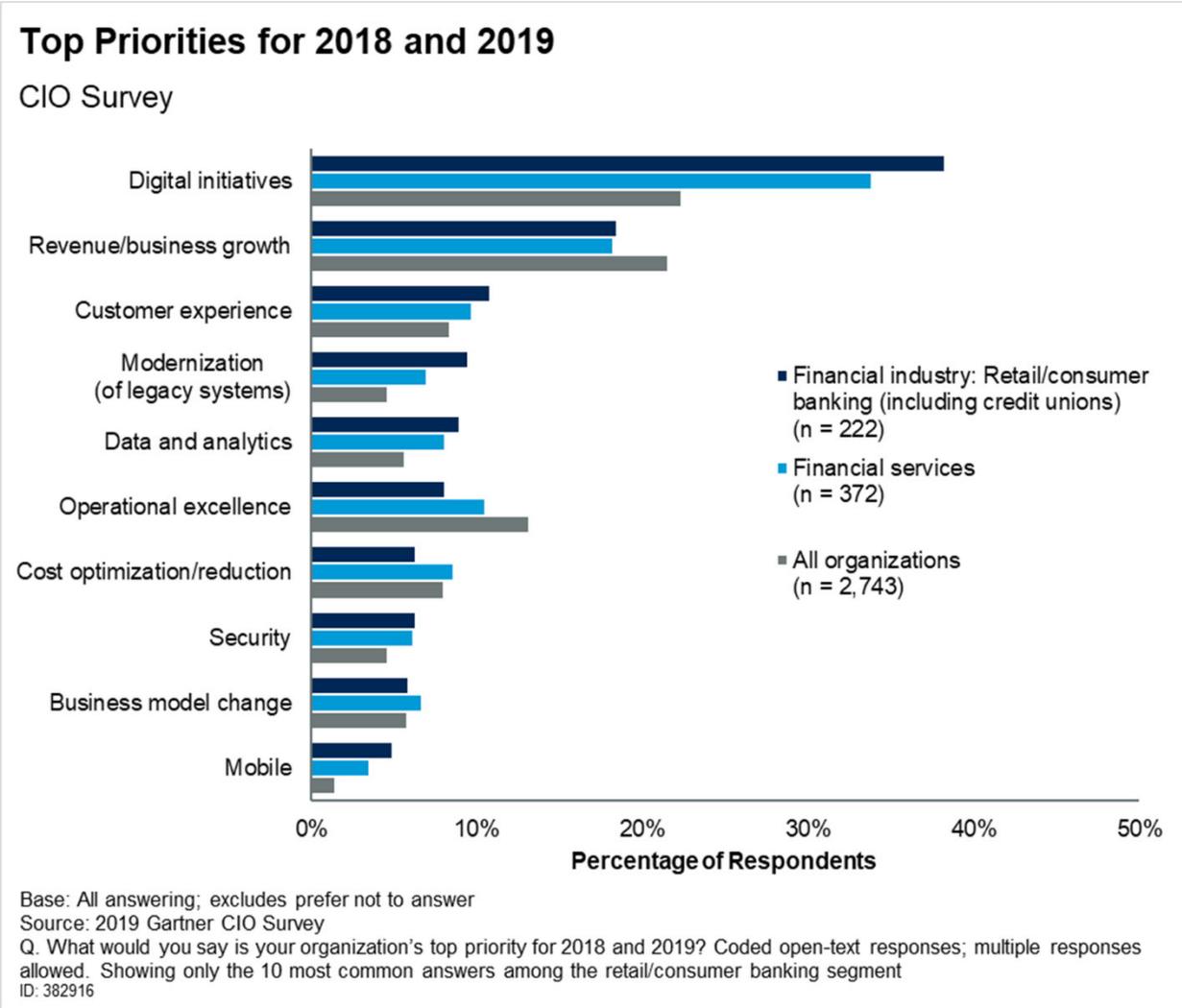
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Analysis

This research does not constitute an exhaustive list of vendors in any given technology area, but rather is designed to highlight interesting, new and innovative vendors, products and services. Gartner disclaims all warranties, express or implied, with respect to this research, including any warranties of merchantability or fitness for a particular purpose.

What You Need to Know

AI-powered tools are increasingly proliferating in the operations of the banking industry, and banks are struggling to find use cases that add ROI, resonate with the leadership and add value to the banking operations. Customer experience is one of the top business priorities that is applicable to many constituents due to the AI tools' applications and ability to directly affect the customers.

According to the 2019 Gartner CIO Survey, customer experience is the third most common business priority among retail/consumer banks (see Figure 1). The drivers for improving customer experience include improving prediction ability, making more accurate decisions and enhancing understanding through conversational interfaces.

Figure 1. Top CIO Priorities for 2018 and 2019

Top Priorities for 2018 and 2019
CIO Survey

Legend:
- Financial industry: Retail/consumer banking (including credit unions) (n = 222)
- Financial services (n = 372)
- All organizations (n = 2,743)

Categories (Percentage of Respondents): Digital initiatives, Revenue/business growth, Customer experience, Modernization (of legacy systems), Data and analytics, Operational excellence, Cost optimization/reduction, Security, Business model change, Mobile

Base: All answering; excludes prefer not to answer
Source: 2019 Gartner CIO Survey
Q. What would you say is your organization's top priority for 2018 and 2019? Coded open-text responses; multiple responses allowed. Showing only the 10 most common answers among the retail/consumer banking segment
ID: 382916

AI offers a wide variety of solutions that enhance customer experience and that go beyond targeting only the customers. Use cases include customer onboarding, personalized banking, automated customer service, personalized marketing experience and customer feedback. Furthermore, use cases provide enhanced employee productivity. Banks have figured out that improving digital experience doesn't mean only catering to the customers, but also improving operational efficiency by using the same tools like chatbots for cataloging in internal operations.

Retail banks are most likely to benefit from the increased usage of AI-powered tools in front-office operations. According to a survey of 400 global banks conducted by Economist Intelligence Unit (EIU), nearly three-quarters of businesses "think retail banking could mostly be automated by 2020."[1] The Cool Vendors profiled in this document either offer solutions that target direct bank operations or offer solutions that can enhance delivery of product and services to the customers.

BankSight's solution uses predictive analytics and machine learning for both structured and unstructured data to improve account opening and onboarding, identify appropriate services, and manage customer relationships. The company's solution is cool because of the ability to understand how behavior affects the way customers (and business owners) can be motivated to use more data-driven products and services.

Causality Link crowdsources by leveraging multiple AI techniques and analyzing unstructured information, while also providing explainability in real time. The platform can be applied to all sorts of use cases that target the customer experience angle.

Finn AI uses its proprietary natural language processing model to support customer acquisitions and deepen customized engagement by providing a personalized experience.

Quantexa's knowledge-graph-based platform reconciles events, entities and networks. The platform also has a "Dynamic Customer Context" that provides an intuitive interface to leverage customer experience.

Spotalpha's SaaS platform — a delivery mechanism — makes equity and mutual fund investments easier and safer via the usage of AI techniques, such as machine learning and natural language processing.

Gartner delves further into the Cool Vendors highlighted in this document.

BankSight

San Francisco, California (https://banksight.com)

Analysis by Stessa Cohen

Why Cool: BankSight provides banking organizations with the ability to use AI-driven digital banking analysis in order to improve account opening and onboarding, identify appropriate services, and manage customer relationships. This solution enables banks to collate both traditional customer and account data, as well as other nontraditional and unstructured data from a variety of sources to accomplish these activities. The ability to collate all of this data and provide actionable advice, whether through customer-facing staff or digital devices, will enable the financial services organization to create new and differentiating digital services. This could be done via self-service devices or via face-to-face interactions with a relationship manager or investment advisor. In addition, this ability to access new kinds of data and transform it into advice will support the demands of digital banking transformation. What makes BankSight a Cool Vendor is that it does not offer an "AI" solution, but instead incorporates a variety of AI capabilities that drive new capabilities in some traditional financial services activities.

Most, if not all banks and other financial institutions, have a variety of software solutions in place to handle account opening and onboarding, CRM and sales and servicing, relationship management, and advisory activities.

There are typically some challenges in these processes, including:

- Identifying relationships among customers and prospective customers as soon as possible in a consistent manner

- Using nontraditional data that has become available since the implementation of these systems

BankSight addresses the challenges of these systems in a digital business environment. BankSight uses AI-driven analytics of all data — whether from traditional bank sources (core banking, customer information file or CRM systems) or LinkedIn to detect relationships among existing or prospective customers. Furthermore, BankSight uses AI to produce predictive models that create recommendations for customers. Moreover, this product gives the banks more insight into the products offered and receptiveness of customers that could lead to better decisions in product management. After onboarding, BankSight also uses AI for financial event detection and prioritization and for customer activities that are not normal behavior.

Challenges: BankSight's main advantages are its deep domain understanding of wealth management and integration of AI capabilities into the solution. Even though other types of financial services organizations have the same challenges and needs, BankSight may find it difficult to translate success in wealth management to adjacent banking lines of business domains. This move will require some initial lead time. In addition, the company will find competition from a number of directions: traditional CRM solutions, digital customer experience platforms, stand-alone digital account opening and onboarding players, and digital banking solution providers. BankSight has begun to address this challenge by branching into other lines of business that include small-business banking customers, and it has a partnership with Bottomline Technologies, whose focus is on commercial banking.

Also, while BankSight is a financial technology (fintech) company, many fintech companies will find that the larger banks and financial services organizations still have reservations about working with lesser-known providers with fewer customer references.

Who Should Care: Technology and service providers that work with, and create solutions for financial services organizations, and wealth management companies that seek to incorporate AI-driven capabilities to accomplish both business optimization goals and digital transformation goals should consider BankSight. The company can address business optimization goals of improving customer experience and profitability and employee productivity by:

- Enhancing the ability of relationship managers and wealth managers to better understand the customer relationship

- Matching the appropriate products to the needs of the customers

- Providing even more finely tuned services to address the needs

Digital banking solution providers may also be interested in BankSight as a partner to improve their account opening capabilities and data analytics through predictive modeling. As the solution is built out, however, BankSight may become a competitor to some of the solutions.

Causality Link

Sandy, Utah (www.causalitylink.com)

Analysis by Erick Brethenoux

Why Cool: Causality Link has built an efficient and remarkably insightful wisdom of crowd platform for financial services, leveraging multiple AI techniques to unveil market insights. The philosophy behind Causality Link's technology is to leverage existing human expertise and build collective intelligence models, while expanding and augmenting shared knowledge.

Absorbing and analyzing in real time a wide amount of relevant unstructured information through a practical wisdom of crowd method is a novel approach in the market. Generating pragmatic and truly original insights by leveraging multiple AI techniques while favoring explainability is also an interesting differentiator. In essence, the platform generates an insights knowledge graph that can be explored in real time and that can generate focused indicators based on relevant causal relationships.

Causality Link's platform collects and analyzes a large number of documents. Those sources can be news articles, analysts' notes, financial documents and press releases. From that vast amount of information, the system extracts and aggregates knowledge that persists in the network, building expertise over time. That knowledge is surfaced in the form of indicators or signals that can be analyzed over time through different analysis angles and a large number of predefined key performance indicators (KPIs), while providing visualization mechanisms for relevant and meaningful access. Users can explore factual explanations from the causal relationships and the facts that the system has derived from human contributions, analyzing KPI issues, industry sectors, specific products or companies, locations and chronological evolutions.

Again, as the engine can collect information in real time, the system's dynamic representation allows for the capture of evolving situations and the delivery of ongoing changes right through the user interface. Analysts can also explore trends and changes in the data through prebuilt visualization charts capturing not only the evolution of an indicator, but also the principal variables and drivers leading that evolution (in the form of causal maps). They have the possibility to always go back to the source for a full explainability.

Challenges: Causality Link's novel but structured and provable wisdom of crowd approach will require some evangelization to gain traction. In the investment domain, investors want to quickly close the loop between the relationships and the indicators of the actual financial movements in the marketplace, further validating the already promising leverage of AI techniques.

Another challenge for Causality Link will be to move beyond the financial sector and toward other domains, where such analysis is relevant, human knowledge is prevalent and explainability is paramount. In the meantime, other competing approaches, such as those promoted by Amenity Analytics or SESAMm, may provide alternative but not equivalent paths of adoption.

Who Should Care: The principal targets served by Causality Link today are financial analysts, institutional investors and corporate development professionals. But the technology is applicable to a larger number of domains. Organizations looking for an AI-augmenting technology that captures

ongoing knowledge and intelligence should also explore Causality Link's original capabilities while building their own indicators.

Finn AI

Vancouver, Canada (www.finn.ai)

Analysis by Saniye Alaybeyi

Why Cool: Finn AI has a rich set of banking-specific utterances and intents, as well as a natural language processing model dedicated solely to banking. As a result, Finn AI aggregates learning for its language model. This way, its customers can benefit from the collective activity of consumers across all deployments. The value to banks includes quicker time to market and lower maintenance costs, and use cases that are aligned with specific bank ROI. By building models that focus on core banking use cases, Finn AI customers can increase cost savings. These customers can quantify value from their AI deployment using existing methods of measurement such as the Net Promoter Score (NPS), lead conversion rates and reduction of repetitive calls to call centers. Finn AI recently went into a partnership with Fidor, and Finn AI's solution is increasingly being integrated into digital bank platforms.

Finn AI's product is a managed solution. The vendor works directly with its customers to design an experience that is customized to customers' users or the products/services that the customers offer. Finn AI automates development of libraries to include new utterances/intents, integration of new products and services, refactoring, and user experience reviews and design. Finn AI's technology includes multilingual support, context and turn-based (two-way) conversational models, and a natural language engine that signals when new features and functionality are required based on user interactions.

Finn AI is working with identity-as-a-service specialist Auth0. The goal of this partnership is to replace the outdated and ineffective authentication processes through which banks deploy their conversational AI technology.

Challenges: Long approval processes during product development cycles and legacy infrastructures in traditional banks, along with misaligned customer expectations (about how conversational AI works and where it can best be applied), and long sales cycles are key challenges for Finn AI. Due to these challenges, it may take Finn AI longer than planned to launch customer deployments publicly, consequently slowing down growth.

Who Should Care: Tech CEOs who need to support bank use cases, such as customer acquisition and customer care, should pay attention to Finn AI. Tech CEOs who want to transform and deepen customer engagement by providing a personalized experience should also care about Finn AI.

Quantexa

London, United Kingdom (www.quantexa.com)

Analysis by Erick Brethenoux

Why Cool: Quantexa boasts a versatile AI engine based on a powerful knowledge graph foundation reconciling events, entities and networks. This highly contextual platform can be leveraged either by automated systems to generate inferences or by users to explore complex knowledge graphs. The use cases based on financial crimes and risk assessment are leverageable, as is, to customer experience or other operational use cases.

To build its original graph network representation, the system can extract structured and unstructured information from existing cases, documents, databases or other information sources, including pertinent metadata structures if available. At the core of the knowledge graph are an entity resolution and a network generation capability weaving a knowledge-rich semantic graph.

The resulting structure can then be traversed to identify specific patterns, like unusual groupings, cliques, special relationships among entities, anomalies and potential unrealized connections. The nature of graph networks also allows users to derive precedents (upstream correlations leading to specific events) or consequences (downstream patterns representative of causal effects), or detect events that are particularly difficult to uncover by using more traditional machine learning techniques. Quantexa offers an intuitive and interactive interface to visualize the network — through a series of user-controlled filters as well as analysis tools aimed at detecting unusual activities in the network.

Quantexa's technology also boasts learning capabilities, inherent to its underlying knowledge representation structure. Dubbed "Dynamic Customer Context," the system's learning capabilities are based on its adaptive infrastructure. Consequently, in addition to the sources of data mentioned above, while the network is in production, the graph can absorb transactional data to modify its internal representation, therefore reflecting new conditions or changing contexts.

Finally, given the intrinsic descriptive nature of knowledge graphs, decisions leveraging the structure are transparent and can be explained in detail. This is another feature that is difficult to derive from most machine learning techniques.

Challenges: The rewards of building a rich knowledge graph are numerous. However, they come with a sizable upfront time investment of several weeks, as well as clearly defined responsibilities to update and maintain the network once in production. Data quality is also critical while constructing and maintaining the graph. Stringent data governance procedures have to be in place to guarantee the integrity of the structure.

The knowledge graph market has grown in popularity in the last 18 months. Many software providers that have been leveraging this technology are revamping their platforms (for example, Diffeo, Maana, Semantic Web Co. and Siren). Other providers are appearing under a new category that can be labeled as advanced decision management platforms (for example, r4 Technologies or ReactiveCore). Those new approaches bring specific competitive challenges for Quantexa.

Who Should Care: Technology and service providers that are involved with use cases including financial crimes, anti-money-laundering, application fraud and credit risk decisioning situations should consider Quantexa in their shortlists. These providers would benefit from the company's deep experience in these domains through an innovative and efficient approach.

Customer experience and monitoring use cases are also prime candidates for Quantexa's technology. The business user approach, intuitive navigation and monitoring, rich explainability, and learning capabilities make this technology a powerful alternative (or complement) to traditional machine learning techniques.

Spotalpha

Bengaluru, India (www.spotalpha.com)

Analysis by Naresh Singh

Why Cool: Spotalpha is a SaaS platform that makes equity and mutual fund investments easier and safer by using AI techniques, such as machine learning and natural language processing. It employs the scale and unbiased qualities of AI to provide algorithm-based quantitative financial analysis that is more dependable and accessible.

Spotalpha offers two products:

- Alpha portfolios — This offering provides equity portfolios for U.S. and Indian markets for individual investors who don't have a lot of time for research.

- Alpha Builder — The robo analysis service is aimed at the more experienced and self-directed individuals and institutional users like hedge funds and mutual funds.

Alpha portfolios will do everything that a traditional fund manager does automatically (from identifying risk-on/risk-off periods to identifying optimal asset allocation and optimal equity rebalancing). Alpha Builder, on the other hand, is a suite of 18 tools that will help identify the optimal investing strategy based on multiple parameters.

Quantitative finance and AI have been extensively used by several global hedge funds and investment banks for a long time. Firms such as Renaissance Technologies have been running successful quantitative funds, consistently delivering high levels of returns for more than 25 years. However, this science has so far not been widely available to individual users because of the high costs involved. Spotalpha tries to disrupt this space by making quantitative finance available as a service to a wider spectrum of wealth managers and retail customers. By automating the complete fund management life cycle of market profiling, screening, selection, allocation and timing, Spotalpha is able to significantly remove biases and emotions from investment decision making.

The company was started in 2016 by experienced quantitative financial trading professionals with bootstrapped funds. It launched its products in mid-2017 and has more than 2,000 individual users and five financial institutions as customers, one of them a multicap equity mutual fund in India having more than $100 million in assets under management (AUM). Spotalpha charges individual users a small fee of US$3 to US$30 per month per market. This makes its offerings very affordable compared with the typical AUM-based fee charged by traditional providers.

Early customers have appreciated Spotalpha's ability to look at multiple parameters simultaneously and come up with timely actionable steps. The options — to freely enter, switch and exit from any

sector, change allocations or shift from equity to cash and vice versa based on market risk — will provide reassurance to individual investors. Institutional users like the features where Spotalpha's AI-based tools help them compare/rate portfolios against competition, perform attribution analysis and test their portfolios against multiple potential future scenarios.

Challenges: AI is being used by several financial trading firms with large investments. However, AI's applications and efficacy are not available to the public due to the secrecy with which these firms go about their business.

There have been some startups in this space like Alpaca, Clone Algo and Sentient Investment Management; however, they wound down their business, went private or did not get to launch their products. This trend has left doubts in the minds of customers.

Spotalpha operates out of India, where the equity and mutual fund markets are yet to mature, particularly in the use of techniques like quantitative financial analysis. Hence, an AI offering in this space will take time to be accepted by both individuals and institutions.

Lack of clear regulations in the fintech space is another challenge that influences the lack of adoption.

Although Spotalpha offers services for the U.S. market, its lack of physical and corporate presence there is also a limiting factor.

Who Should Care: Business leaders and wealth managers of:

- Large hedge fund houses involved in equities
- Mutual fund providers
- Other financial institutions like banks and insurance providers looking to upsell additional services by adding value to their customers

Furthermore, fintech provider CEOs focusing on large banks and nonbanking financial companies can look at partnering with Spotalpha to provide a broader set of AI and digital transformation solution packages. Spotalpha has already entered into a memorandum of understanding with two top-tier technology vendors that will sell products that are jointly developed.

Where Are They Now?

Onfido

London, United Kingdom (www.onfido.com)

Analysis by Moutusi Sau

Profiled in "Cool Vendors in AI for Banking and Investment Services"

Why Cool Then: Onfido was profiled in 2018 for bringing in innovative technologies in the banking space. It incorporated technologies like facial biometrics and image analytics in a risk analysis

capacity that is disruptive in Onfido's application. Identity verification typically took longer via traditional methods, but incorporating usage of facial recognition via smartphones makes this verification dynamic and faster.

In 2018, the product recognized 600 document formats (including driver licenses, passports and identity cards), is know your customer (KYC)-compliant and integrates with Salesforce, so that the verification information is stored right in customer records.

Onfido provides identity validation solutions by authenticating a person's identity documents, comparing them with facial biometrics, and cross-referencing them against international credit and watchlist databases.

Where They Are Now: Onfido raised $50 million from SoftBank, Salesforce, Microsoft and others. With the new deal, Onfido is poised to embark on other applications, including customer onboarding, with products geared toward consumers. Fraud is fast emerging as a top area of application for machine-learning-based tools, and this deal heightens the need for such solutions in this space.

Who Should Care: Technology and service providers at retail and corporate banks, investment banks, asset management firms and wealth management firms that are looking for complementary solutions for facial biometrics should consider Onfido. The vendor will be able to offer a strong tool for this space.

Acronym Key and Glossary Terms

AI	artificial intelligence
AUM	assets under management
EIU	Economist Intelligence Unit
fintech	financial technology
KPI	key performance indicator
KYC	know your customer
NPS	Net Promoter Score

Gartner Recommended Reading

Some documents may not be available as part of your current Gartner subscription.

"Predicts 2019: AI and the Future of Work"

"How to Use AI to Improve the Customer Experience"

"How Bank CIOs Can Use Robotic Process Automation to Improve Customer Experience"

Evidence

The 2019 Gartner CIO Survey was conducted online from 17 April through 22 June 2018 among Gartner Executive Programs members and other CIOs. Qualified respondents are each the most senior IT leader (CIO) for their overall organization or a part of their organization (for example, a business unit or region). The total sample is 3,102, with representation from all geographies and industry sectors (public and private). The survey was developed collaboratively by a team of Gartner analysts, and it was reviewed, tested and administered by Gartner's Research Data and Analytics team.

[1] "One-Fifth of Global Banks Think AI Will Boost Customer Experience," Computer Weekly.

More on This Topic

This is part of an in-depth collection of research. See the collection:

- Cool Vendors — Action, Not Just Reaction, Is Key to Coolness: A Gartner Trend Insight Report

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