AI: Transforming the Digital Account-Opening and Onboarding Experience

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INTRODUCTION

Financial institutions (FIs) have had to shift their business from one built on interacting with customers in brick-and-mortar locations to one that has become digital first. Today, customers turn to digital devices as their starting point for everything from researching and buying products to monitoring the status of their orders. Digital retail players such as Amazon, Netflix, and Uber continue to raise the bar on integrated shopping experiences by allowing customers to decide how and when they will receive their products, providing financing options at the point of sale, and suggesting products based on what these businesses know about their customers.

Artificial intelligence (AI) is one technology that can help FIs reinvent how they interact with customers during the digital account-opening and onboarding process. FIs have a vast amount of data about customers and can deliver real-time financial information through a mobile device, while application programming interfaces (APIs) are able to connect data and systems to obtain access to customer information (from FIs' systems or trusted third-party sources) and streamline operations.

This report examines the current state of the account-opening and onboarding experience, surfaces the challenges that still exist from customer and employee perspectives, discusses the opportunity AI creates to transform the process, and gives insight into what FIs need to do to take advantage of AI.

METHODOLOGY

This Impact Note contains analysis from 24 in-depth Aite Group interviews with senior executives at banks, vendors, and consulting firms from various parts of the world that use AI solutions to support digital account-opening and onboarding experiences, that are in the middle of implementing such a solution, or that are considering implementing a solution within the next couple of years. Interviews for this study were conducted from March to October 2018. Executives contributing to the research have extensive business or IT responsibilities and titles that include chief executive officer, chief management officer, executive vice president, vice president, senior vice president, and director.

Aite Group conducted research using an online survey from March 2018 to June 2018 to better understand application fraud for both demand deposit accounts and credit cards. Executives from 30 U.S. FIs completed the online survey; ongoing conversations with FI executives supplemented the data gathered via the survey. Asset sizes of the participating FIs range from under US$1 billion to over US$100 billion. Almost half the FIs have under US$50 billion in assets while roughly one-quarter of participants have between US$50 billion and US$99.9 billion, and the final quarter have US$100 billion or more.

Aite Group also surveyed 1,400 consumers in the U.K., the U.S., and Singapore in July 2018 to better understand their attitudes toward the impact of fraud and authentication on the customer experience. The sample is in proportion to each country's population for age, gender, income, geographic region, and race. The data have a margin of error of three points at the 95% level of confidence.

THE MARKET

Given customers' rapidly rising expectations for digital banking experiences to match the integrated experiences they receive in other industries, FIs are under pressure to deliver a customer-centric, mobile-first digital experience that is integrated and flexible enough to engage with customers when they want, how they want, and where they want. At the same time, FIs are reacting to a multitude of market forces (Table A).

Table A: The Market

Market trends	Market implications
Customers are migrating to the digital channels.	Customer adoption of new technology and richer digital experiences in the retail industry are pressuring FIs to innovate and deliver the same quality of digital experience customers receive in other industries. In the U.S., U.K., and Singapore, nearly three-quarters of consumers log in to access their accounts online or through a mobile device at least weekly.
Banking products are a commodity.	For the most part, banking products are the same with some variation in terms, pricing, and features. One source of differentiation for FIs is the customer experience.
FIs are facing increased pressure to optimize back-end systems and operational processes.	FIs are looking for ways to exploit technology to simplify business processes and drive down operational costs.
Everything is becoming connected, and there is more data than ever.	Connected devices, from wearable technology to connected cars, allow consumers to leave digital breadcrumbs everywhere. These devices can track what customers are doing, where they are doing it, what they like, and what they don't like. These new data streams can be used to personalize the digital account-opening and onboarding experience.

Source: Aite Group

Digital is increasingly becoming the primary way to connect with consumers. While some FIs believe they have to maintain a sense of "community," communities are increasingly becoming digital. As a result, FIs will need to bring channels together to be able to interact in the same places consumers do—in a digital environment—whether that is in mobile applications, connected devices, social media, or other internet-of-things touch points. And the branches will need to adapt their role to react to consumers' changing channel preferences—whether that is to modernize branches by providing customers access through mobile devices such as tablets; augmenting branch staff with robots, such as SoftBank's Pepper; placing virtual tellers into the branch network; or redesigning the physical structure of the branch by creating pop-up branches or cafes.
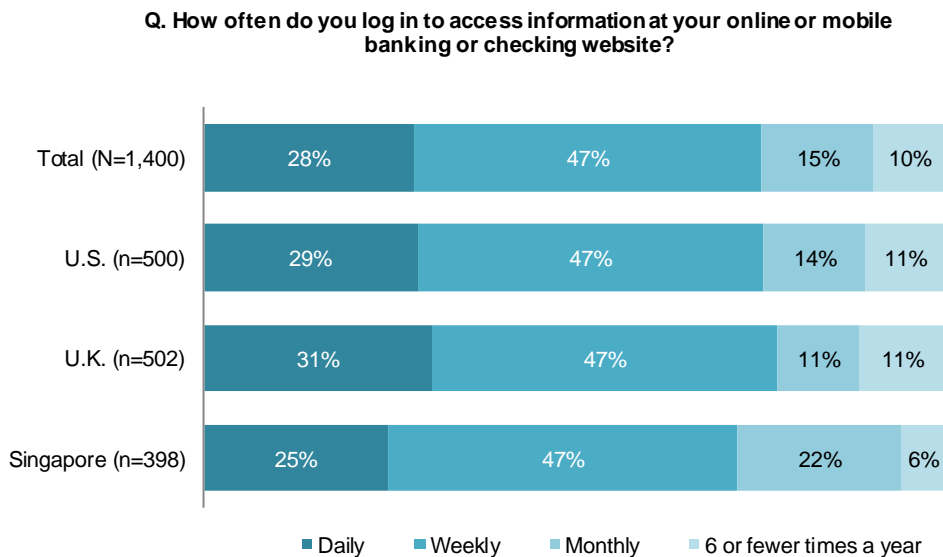
DIGITAL BANKING ADOPTION

Many banking executives' technological focus has shifted toward a digital model, with digital making strides toward becoming the primary banking channel for many customers. Excellence in one channel is no longer sufficient; customers expect the same positive and streamlined experience in every way that they interact with their FI as they frequently switch between channels. As the number of digital banking users grows, it will become increasingly important for FIs to build personalized experiences that allow them to deliver customized product recommendations, remove the friction from the account-opening process, assist a customer with account features, and help customers meet their financial goals in a digital environment.

CURRENT ADOPTION AND FREQUENCY OF USE

There are over 173 million digital banking users in the United States, and of those, nearly 52 million are online banking users only, nearly 19 million are mobile banking users only, and nearly 103 million are both online and mobile banking users.[1] The frequency with which consumers log into online or mobile banking to access their accounts is not much different between the U.S. and the U.K.; nearly three in 10 consumers in the U.S. and U.K. access their accounts daily. On the other hand, 25% of consumers in Singapore access their accounts daily. And nearly three-quarters of consumers across the U.S., the U.K., and Singapore access their accounts at least weekly (Figure 1).

Figure 1: Frequency of Consumer Access to Information Through Online or Mobile Banking

Q. How often do you log in to access information at your online or mobile banking or checking website?

	Daily	Weekly	Monthly	6 or fewer times a year
Total (N=1,400)	28%	47%	15%	10%
U.S. (n=500)	29%	47%	14%	11%
U.K. (n=502)	31%	47%	11%	11%
Singapore (n=398)	25%	47%	22%	6%

Source: Aite Group's survey of 1,400 consumers in the U.K., the U.S., and Singapore, July 2018.

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1. See Aite Group's report *Digital Banking Customer Engagement: Adoption, Usage, and Satisfaction*, August 2017.

Regardless of age, two-thirds of consumers in the U.S., the U.K., and Singapore log in to access their accounts through online or mobile banking at least weekly (Figure 2). It's safe to say that consumers use digital banking services more than they visit their branch. As such, consumers will increasingly turn to digital channels to research products, apply for accounts, monitor the status of their application, and set up their accounts for digital banking.

Figure 2: Frequency of Consumer Access to Information Through Online or Mobile Banking by Age
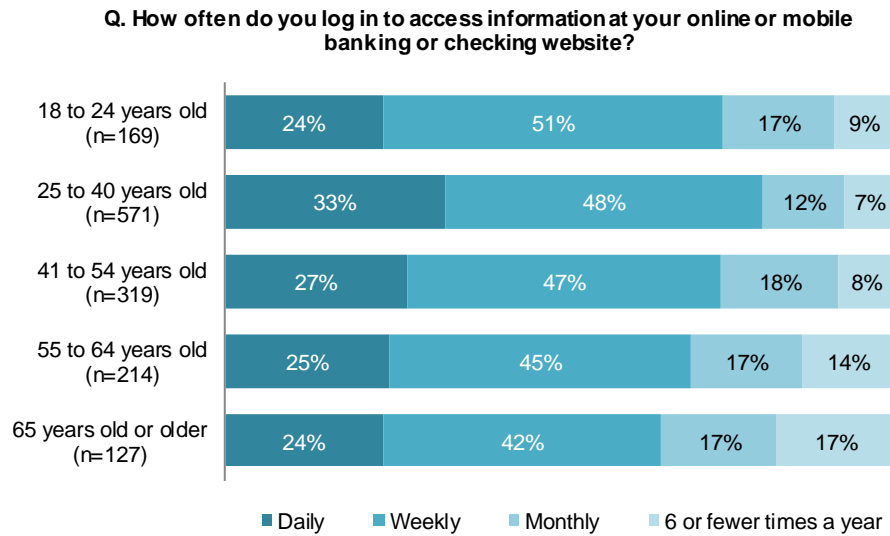
Source: Aite Group's survey of 1,400 consumers in the U.K., the U.S., and Singapore, July 2018.

CUSTOMER EXPECTATIONS FOR A SUPERIOR DIGITAL EXPERIENCE

FIs have done a good job of replicating the activities a customer can do in the other channels in the digital channel, but they have not been able to keep up with the digital experience customers get in other industries. While FIs have provided access to their products and services in the channels that customers want, there is still room for FIs to develop personalized digital account-opening and onboarding experiences just like the ones they have when they purchase retail products in a digital world.

A superior digital experience goes beyond a pretty user interface. It is also about using what is known about a customer to proactively identify when the customer has a need and to deliver an offer that resonates, making it easy for the customer to apply, helping the customer to navigate through the fulfillment process, and giving the customer quick access to his or her funds. The following are still significant challenges in the digital account-opening and onboarding process:
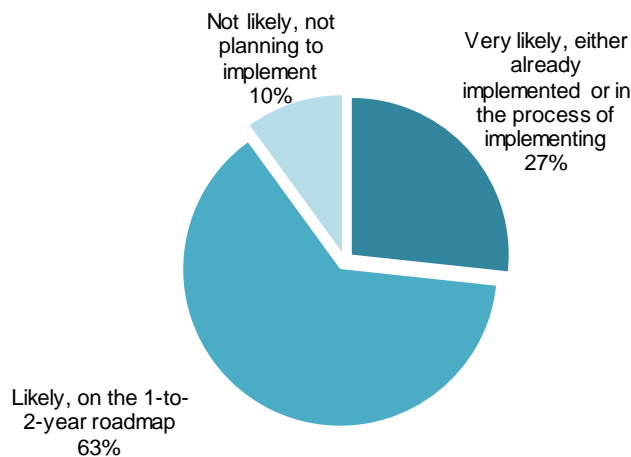
- **Marketing offers:** Part of the account-opening process is driving the right prospects to apply. That means being able to proactively identify a consumer need, delivering a marketing offer that resonates with a consumer, and driving the consumer to accept the right offer in the right channel. Most marketing offers treat consumers like they are one *of* a million instead of making consumers feel as if they are one *in* a million by delivering a personalized offer that demonstrates why that consumer needs the product and how it can help the consumer meet financial goals.

- **Product education and value proposition:** Today's online and mobile application experiences provide generic product information. They do little to educate consumers on why certain products are right for them, how they can meet their overall financial goals, and how expanding their relationship with an FI benefits them. In addition, most FIs do not emphasize why banking with them is better than banking with their competitors.

- **Lengthy application process:** One of the major challenges with streamlining the application process is the amount of information required for a customer to apply for a product. Most online and mobile application experiences mirror the branch and call center processes, which were developed from manual, paper-based processes.

- **Lack of mobile-first design:** While the length of the application has kept FIs from truly streamlining the application process, the larger issue is that most digital application experiences aren't following a digital-first approach. Rather, they are replicating the experience that exists in other channels. One tactic to reduce the amount of data entry that is gaining momentum is mobile identity document verification. This will not only let FIs validate the authenticity of a document but also prefill information pulled from the document into the application. Sixty-three percent of respondents responsible for the new-customer onboarding process for demand deposit accounts (DDA) and credit card accounts indicate they plan to

implement identity document image capture/verification in the next two years (Figure 3).

- **Personalization of the experience:** The digital account-opening and onboarding experience does not consider a consumer's account relationships or goals, or how they use accounts. For example, product features may be offered to a consumer in an application, but the offer to enroll in features does not explain how the feature is used and how it can help a consumer manage his or her accounts. In other words, it does not explain why the consumer needs that feature based on how the consumer uses the accounts.

- **Omnichannel experience:** Although most FIs state they have an omnichannel strategy, few have digital experiences that allow a consumer to start an application, save it, retrieve that application in any channel, and submit it. In addition, most FIs are still lacking the ability to let a consumer monitor the status of the application online or through a mobile device, see a list of items they need to provide to open the account, upload or take pictures of a document, and set up their account for digital banking capabilities once the account is open. Digital fulfillment presents the opportunity to implement e-signatures for loans, which eliminates the need to sign in a branch or with a notary, and provides user-friendly methods for funding a checking account that do not rely on a consumer going into a branch to make their first deposit.

Figure 3: Respondents' Plans to Implement Mobile Data Capture/Identity Document Verification

Q. How likely is your FI to implement mobile data capture/identity document verification (for DDA and credit card accounts)? (N=30)

Not likely, not planning to implement 10%

Very likely, either already implemented or in the process of implementing 27%

Likely, on the 1-to-2-year roadmap 63%

Source: Aite Group's survey of 30 financial institutions, March to June, 2018

All of these challenges lead to significant rates of application abandonment. The digital banking executives and technology providers that Aite Group has interviewed over the last year indicate that application abandonment rates are still between 65% and 95%, depending on the product.

INTERNAL PRESSURES THAT HAVE HINDERED INNOVATION

The challenge for FIs that aim to remove the pain points in the digital account-opening and onboarding process is that IT budgets are increasingly locked down by compliance and legacy maintenance projects, thus reducing their capacity to innovate. And these budget constraints prevent them from investing more in innovative products and services than they were three years ago. As a result, digital banking executives are forced to prioritize compliance and fraud initiatives as well as business-as-usual enhancements—analytics and minor enhancements— above digital onboarding and account-opening innovation. But one thing to be mindful of is that all of these incremental changes affect a customer's experience—for better or for worse. FIs need to put user experience in the center and make it a key consideration in almost every IT choice they make to ensure that their legal, compliance, and business-as-usual decisions do not negatively affect the customer experience.[2]

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2. See Aite Group's report *Neobanks: Banking on the Digital Experience*, November 2017.

WHAT IS ARTIFICIAL INTELLIGENCE?

For years, FIs have been trying to deliver a personalized digital experience. At this point, that has been more of an aspiration than a reality. But FIs are beginning to realize they have the data and technology needed to deliver a personalized digital experience. And AI is the key that opens the door. For digital banking executives to understand how to use AI to transform the account-opening and onboarding experience, it is important to understand what the technology is, what it does, and how it can be used. Simply put, "AI technology" is the umbrella term for many underlying techniques that can be used to emulate human cognitive behavior. And a few of these underlying AI techniques are starting to gain traction in the financial services industry (Table B).

Table B: Types of AI

AI type	Description	Example of uses
Machine learning	Encompasses analytics techniques that can identify patterns of behavior through iterative optimization	Fraud detection, anti-money laundering (AML) detection, marketing analytics
Robotic process automation (RPA)	The use of advanced analytics technologies to handle high-volume, repeatable tasks that traditionally require human intervention [3]	Operational efficiency efforts
Natural language processing (NLP)	Software that can read language and turn it into structured data[4]	A conversational platform is one that uses NLP through text or voice to understand, process, and predict behavior; determine the next best action; respond by providing information; execute a request; and learn from the experience, just as a human would. This dialogue is a two-way interaction. To facilitate the interaction with a customer, conversational platforms stitch together multiple capabilities, such as NLP, predictive analytics, biometrics, and machine learning.[5] NLP is also increasingly used to add efficiency to AML efforts.

3. See Aite Group's report *Machine Learning for Fraud Mitigation: The Substance Behind the Buzz*, April 2017.

4. See Aite Group's report *Top 10 Trends in Retail Banking & Payments, 2018: Accelerating Evolution*, January 2018.

5. See Aite Group's report *Chatbots and Interactive Assistants: Building an Engaging Digital Experience*, October 2017.

AI type	Description	Example of uses
Augmented/virtual reality	Taps into various senses—visual, auditory, haptic, somatosensory, and olfactory—to simulate an environment and allow a consumer to interact with a product, service, or solution	Allowing a consumer to get more information and interact with a product or service virtually, such as obtaining information on a home or car for sale

Source: Aite Group

WHAT IS THE OPPORTUNITY?

Most customer interactions with a bank are transactional—check a balance, make a payment, and transfer money. As a result, most FIs are reacting to a customer request or need rather than proactively offering guidance or product solutions.

As FIs look across the spectrum of products and services, they should consider the opportunity to build personalized experiences to win customers, get them to engage with their finances, earn their trust, and build loyalty.[6] Once a bank identifies a customer need, it should proactively provide the right experience and the right product in the right channel at the right time.

The industry is already beginning to see early examples of how augmented reality can be used to support consumers in activities such as finding an auto loan when buying a car. USAA has created an augmented reality car-buying application that allows its members to point a mobile phone camera at a vehicle to obtain the make, model, and year of the car, as well as its price range, insurance quotes, and loan purchase options.[7]

TRANSFORMING THE CUSTOMER AND EMPLOYEE EXPERIENCE

A technology with impacts as broad as those of AI is rare. Usually, when a new technology is introduced, it is thought of in silos—meaning "what immediate benefit does this technology have in a certain area of my business and/or channel?" It is not until later that the technology's ability to help solve other business challenges is considered. AI is one technology that has broad benefits to the customer and to the overall organization (Figure 4).

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6. See Aite Group's report *U.S. Credit Card Issuers' Digital Account-Opening Processes*, October 2016.

7. Penny Crosman, "USAA Road-Testing Augmented Reality App for Car Buying," American Banker, September 24, 2018, accessed October 2, 2018, https://www.americanbanker.com/news/usaa-road-testing-augmented-reality-app-for-car-buying.

Figure 4: Examples of Ways AI Can Transform the Customer and Employee Experience

ARTIFICIAL INTELLIGENCE

CUSTOMERS

Chatbots and interactive assistants

• Account maintenance requests

• Spending analysis

• Saving goals

• Debt reduction and consolidation

• Financial health analysis and guidance

• Product recommendations

EMPLOYEES

Back-office operations

• Analytics—marketing, operations, fraud, risk

• Processing—data entry, processing, underwriting

• Compliance—auditing, reporting, risk, procedures

Agent help and procedures

• Agent help desk support

• Procedures

Source: Aite Group

As FIs look across the customer life cycle, they should consider the ways AI can be used to transform the customer experience, whether that is building better digital experiences or transforming back-office processes to help support winning customers, getting customers to engage with their finances, earning their trust, and building loyalty (Table C).

Table C: Opportunities to Use AI During the Customer Life Cycle

Life cycle stage	Use cases for customer experience	Use cases for employee experience
Win the customer	Use account information to predict when a customer may experience a life event that has financial impact. Use account information to recommend a product to the customer based on how and where the customer spends money as well as his or her overall financial goals. For example, FIs can use the data they have about how a customer spends money to suggest a credit card that has the most beneficial reward structure.	Deploy more advanced marketing analytics strategies that move from mass marketing to delivering personalized offers. Reduce risk by identifying application fraud. Automate Know Your Customer process during onboarding.

Life cycle stage	Use cases for customer experience	Use cases for employee experience
	Offer a customer product features that align with how the customer uses his or her accounts. Create product bundles that align with a customer's current account holdings and life stage, and provide a bundle or set of products that gives the customer the best price based on the relationship. Deliver contextual pre-approved offers in the context of what a customer is doing and where. For example, if a customer is in a retail store, FIs could send a pre-approved offer to the customer to be used on a purchase while he or she is in the store.	
Engage in finances	Help a customer identify ways to save for a goal and provide guidance on how to invest, or even help the customer find the right products to help achieve the goal. Help a customer set up new accounts by identifying when an account feature would have helped a customer and proactively reaching out to educate him or her on how to best use products or services. For example, if a customer has not set up automatic payment or used credit card rewards, FIs can send personalized messaging to help that customer understand why he or she should use the features and how to use them. Identify opportunities to help customers manage their finances and achieve financial wellness. While personal financial management (PFM) tools provide great insight into a customer's goals, if a FI recognizes that a customer has a savings goal set up for a down payment on a home or car, or is even saving for a large purchase, through analytics tools the FI can identify the customer need and generate a personalized offer that helps support that goal.	Analyze a customer's usual behavior patterns as well as the context of the transaction to authenticate the customer. Deploy RPA or "bots" that sit on the desktop and act as assistants to the human staffers by quickly gathering customer data from multiple internal and external sources across different systems. Identify any abnormal customer action that breaks from historical or normal customer behavior and that may indicate fraudulent activity, such as a profile change, and use that information to detect application fraud.

Life cycle stage	Use cases for customer experience	Use cases for employee experience
Earn trust	Review a customer's creditworthiness and offer guidance on how to build or rebuild his or her credit. Analyze a customer's accounts and payments to identify ways to restructure debt to improve cash flow and credit score. Identify new products that meet customers' needs as they evolve. For example, as customers enter new life stages, they often have life events with financial impacts. Rather than reacting to a financial need, FIs could be proactive and predict when a customer may enter a life stage or experience a life event that has a financial impact and help the customer. Help a customer avoid fees by helping them manage their accounts responsibly, for example, by sending a notification to a customer when a customer is about to be overdrawn, predicting a future account balance to help a customer understand cash flow, or recommending that a customer use a savings account or credit card for overdraft protection.	Reduce operations risk, support AML, and audit business processes for compliance adherence. Improve fraud detection and reduce false positives.
Build loyalty	Understand customer sentiment and use that information to communicate the right product with the right action at the right time, in the right place, and in the right message and tone. Help customers understand how account features can save them time and money.	Deploy a bot that helps provide guidance to more junior-level employees, versus having them call a help desk or seek advice from a more experienced employee.

Source: Aite Group

TRANSFORMING THE CUSTOMER EXPERIENCE

To transform the digital account-opening and onboarding experience, FI executives will need to use the information they have about their customers (if any), expose that data to various internal systems through APIs, streamline back-end systems and operations processes, and deliver offers or guidance in real time. And for consumers who do not have an existing relationship with the FI, it will mean that the FI will need to get access to external data sources, analyze the data, and determine when it makes sense to deliver a personalized experience with the right products.

LEVERAGING CONSUMER DATA

In the past, the data storage costs would have forced financial institutions to prioritize the type of data captured and archived. Today, data storage costs are relatively low, affording FIs the ability to keep deep pockets of data. This creates an opportunity for FIs to differentiate by using the data they have about a consumer to get to know his or her preferences and financial aspirations, how and where he or she spends money, and what other factors may affect financial decisions, and to use this information to deliver personalized product recommendations.

However, not all data is created equal, and it's easy to get lost in the sea of data. Having vast amounts of data does not mean there is more insight, as insight depends on the integrity of the data. The key is to understand what data is needed to answer questions about prospects or customers, or to see what data can simplify the account-opening or onboarding process for a customer. For example, FIs can use the data they have about a customer to predict when a customer is in a specific life stage, give him or her personalized product recommendations, and prefill information into the application, reducing the effort and time required from the customer. And for consumers who do not have an existing relationship with a financial institution, data from third-party sources is critical to understanding when there is a product need, the right product to offer, and how to deliver a personalized customer experience based on what is known about the consumer.

OPTIMIZING BACK-OFFICE AND OPERATIONS PROCESSES

For FIs to remove friction in the digital account-opening and onboarding experience, they will need to optimize back-end systems and operations processes. FIs should look at each of the operations and supporting systems used in the account-opening and onboarding process to determine what can be changed to accelerate supporting employee processes. Below are a few examples of how AI can be used to optimize the employee experience for back-office and operational processes:

- Automate the fulfillment process for more complex account-opening processes, such as loans, lines of credit, and home lending products. Firms such as Symphony Ventures help FIs automate their business processes using RPA.

- Replace manual customer authentication processes in the branch, call center, and operations teams with facial recognition instead of asking knowledge-based authentication questions.

- Deploy an NLP bot that educates employees in real-time on the right products or services to offer a customer, proactively provides information on the right procedures, or recommends the right script to use based on the context of the conversation and customer sentiment.

USING AI TO DRIVE THE RIGHT EXPERIENCE AT THE RIGHT TIME

Mobile has provided the opportunity to move toward "activity-based interactions," or to interact with consumers in the context of the activity being performed by the customer in that moment, and away from offering mass experiences to customers—one-size-fits-all experiences. For example, by using AI, FIs can analyze customer information that may be tied to a budget or financial goal in PFM and identify ways for a customer to save money, trim expenses, or reduce debt. And FIs using AI can even quantify for a customer what taking any of these recommendations means for their ability to meet their overall financial goals. Or if an FI recognizes that a customer is at a boat dealership, it can send the customer a prequalified offer for a new boat loan. In addition, by using augmented/virtual reality in this situation, it allows a customer to experience a product, obtain more information about the product, understand how they can get financing, and get insight on how the decision to purchase the product affects their financial goals—short and long term.

Part of delivering the right experience at the right time will also mean that FIs will need to finally implement an omnichannel strategy. Part of delivering a personalized customer experience means that FIs need to have insight into what a customer is doing in every channel and to use AI to predict the best channel or combination of channels in which to deliver that offer.

As customers increasingly migrate to the digital channels, many FIs will be forced to rethink the role of the branch. Today's account-opening and onboarding processes still rely on physical distribution points—the branch and the call center. In the future, FIs will have to flip the business model, promote the digital channel as the main channel for sales, and place the branch and call center in a complementary role as an extension of digital channels. This strategy will put increased pressure on FIs to deliver an omnichannel experience that allows a consumer to seamlessly move between channels.

TECHNOLOGY THAT CAN TRANSFORM THE EXPERIENCE

Many new and emerging technologies can help FIs transform their digital account-opening and onboarding experience. But that also means that FIs will need to stitch together a handful of new and emerging technologies (Figure 5).

Figure 5: Emerging AI Technology That Can Transform the Experience

COLLECT DATA	VERIFY IDENTITY	PRESENT DISCLOSURES	QUALIFY FOR PRODUCT	ONBOARD ACCOUNT
Communicate requirements for applying for a product Capture information needed to make a credit decision Validate IP	Verify applicant's identity through existing account relationship or using ID verification systems	Communicate key terms and conditions Gain consent on submitting the application and pulling credit	Use credit decision model to determine consumer eligibility for product	Open new account Send cardholder information on how to access their new account Communicate key product features Deepen the relationship through relevant offers

Emerging AI technology

- Biometrics authenticate the customer
- Machine learning for application fraud, identity verification
- NLP or natural text processing to capture customer information to prefill the application
- RPA for application underwriting and fulfillment processes

- Predictive analytics and machine learning for marketing offers, life stage prediction, recommending product bundles and product features
- Mobile document capture to extract and prefill data
- Augmented/virtual reality to help build product awareness and education

Source: Aite Group

To help digital banking executives conceptualize how various AI technologies can be used to transform the experience, Aite Group put together a set of use cases and examples of vendors that offer these types of technologies. Table D is not intended to be an exhaustive list of all the use cases nor a list of all the technology needed or vendors in this space; rather, it offers a short list of possibilities for how a digital account-opening and onboarding experience can be transformed. The use cases included in Table D do not contain examples of the verify identity step, as some of the use cases and vendors were included in other stages of the process.

Table D: Examples of How AI Can Transform the Digital Account-Opening and Onboarding Experience

Stage in process	Use case	Examples of vendors
Collect data	Determine the right product for a customer based on use, credit history, financial goals, consumer data, and reason for needing the account. Identify any other complementary products or services based on his or her existing account ownership or goals.	Accenture, Acxiom, Albert, BankSight, Beyond the Arc, Brighterion, Capco, CustomerMatrix, Datameer, Deloitte, Deluxe Marketing Solutions, DemystData, dunnhumby, Eloqua, Epsilon, Equifax, Experian, EY, Feedzai, FICO, FIS, Fiserv, Harland Clarke, IBM, ID Analytics, KPMG, Marketo, Marquis, Merkle, Nielsen, NGDATA, NinthDecimal, Novantas, Oracle, PwC, Personetics, Radius, Segmint, Smart Engine, SAS, Syncrement, TransUnion, Vantedge, ZyloTech
	Guide a consumer through the application process and educate the consumer on ancillary services or other products that help to meet financial goals. Respond to consumers' questions about what type of product is right for them Help a consumer understand what information is needed to apply for a product. Complete the application by using voice recognition to answer questions in the application.	3Cinteractive, Abe AI, Active.Ai, Avaamo, Bold360, Bond.AI, Brighterion, Clinc, Conversation.one, Finn AI, Humley, IPsoft, Kasisto, Kore.ai, NCR, Next IT, Nuance, Ondot Systems, Payjo, Pegasystems, Personetics, ServiceNow, TalkBank, Tata Consultancy Services, Wally
	Streamline the application process to reduce the amount of data a consumer needs to enter through document capture and verification.	Acuant, AriadNext, IDology, Jumio, LexisNexis Risk Solutions, Lexmark, Mitek, Onfido, Paycasso
Present disclosures	Present disclosures and allow a consumer to accept or sign disclosures.	AriadNext, DocuSign, eSignLive, Signicat, OneSpan
Qualify for product	Evaluate credit risk and/or qualify for a product	CU Direct, ChexSystems, CoreLogic, Equifax, Experian, FICO, Finicity, ID Analytics, LexisNexis Risk Solutions, MicroBilt, TransUnion, VantageScore, Zoot Enterprises
	Verify application is not fraudulent.	Brighterion, DataVisor, Feature Analytics, Featurespace, Feedzai, FICO , IBM, ID Analytics, iSoft, LexisNexis Risk Solutions, Risk Ident, SAS, Simility, ThetaRay, Wipro

Stage in process	Use case	Examples of vendors
Onboard account	Allow a consumer to take pictures of bills to set up bill payments.	Allied Payment, AriadNext, FIS, Fiserv, Jack Henry & Associates, Kofax, TIS, Mitek, LexisNexis Risk Solutions
	Identify any other complementary products or services based on his or her existing account ownership or goals.	Accenture, Acxiom, Albert, BankSight, Beyond the Arc, Brighterion, Capco, CustomerMatrix, Datameer, Deloitte, Deluxe Marketing Solutions, DemystData, dunnhumby, Eloqua, Epsilon, Equifax, Experian, Feedzai, FICO, FIS, Fiserv, Q2 Gro, Harland Clarke, IBM, ID Analytics, KPMG, Marketo, Marquis, Merkle, NGDATA, Nielsen, NinthDecimal, Novantas, Oracle, PwC, Personetics, Radius, Segmint, Smart Engine, SAS, Syncrement, TransUnion, Vantedge, ZyloTech
	Use a chatbot or interactive assistant to walk customer through how to set up the accounts.	3Cinteractive, Abe AI, Active.Ai, Avaamo, Bond.AI, Brighterion, Clinc, Conversation.one, Finn AI, Humley, IPsoft, Kasisto, Kore.ai, NCR, Next IT, Nuance, Ondot Systems, Payjo, Pegasystems, Personetics, ServiceNow, TalkBank, Tata Consultancy Services, Wally

Source: Aite Group

To make all of this work, the AI technology needs to integrate with a sales application platform, commonly through an API. Aite Group has put together a snapshot of the vendors in this space (Table E).

Table E: Sales Application Platform Vendors

Capability	
	Examples of vendors
Sales application platform	Avoka, Backbase, BankSight, Bottomline Technologies, CU Direct, Digital Onboarding, FIS, Finastra, Fiserv, Q2 Gro, Jack Henry & Associates, MeridianLink, Newgen, nCino, Terafina, Zenmonics, Zoot Enterprises

Source: Aite Group

CONCLUSION

It is becoming increasingly important for FIs to build personalized experiences that allow them to deliver customized product recommendations, create application processes that make it easy for a customer to open an account, and help customers meet their financial goals in a digital environment. As they begin this journey, it's important to start with the following:

- **Making customer data accessible:** For FIs to deliver personalized digital experiences, they need data that provides insights into a customer's existing relationship, life stage, and financial goals. That way, they can build and provide a personalized experience, make product recommendations, and offer financial guidance based on what they know about a customer.

- **Presenting advice in context to what a consumer is doing:** For recommendations to make a difference in customers' lives, they need to be put into context for a customer, and that means they need to occur in real time and demonstrate the immediate value of what is being recommended.

- **Bringing data and systems together using APIs:** For FIs to deliver personalized digital origination experiences, data and systems must operate in tandem to gain insight and deliver real-time recommendations to consumers. FIs will need to integrate the external services and offer them through the (front-end) APIs to their consumers, maintaining a single user experience.

- **Transforming back-office and operations processes:** To transform the digital origination process, FIs need to think beyond the digital customer experience. True transformation will only occur if the back-end systems and operational processes are also streamlined to help increase customer transparency and reduce the friction in the entire origination process.

- **Considering how digital channels help transform the role of the branch:** For some products, the branch still plays a key role in account opening. FIs will first need to transform the digital account-opening and onboarding process but then consider how the branch will support sales activities in the future. That may mean that the digital channels become the sales channel and the branch moves into a complementary role.

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