TATA CONSULTANCY SERVICES

Building on belief

The emergence of digital assistants within the investment bank

Banking, Financial Services and Insurance

Abstract

In 2021, investment banks continued to register year-on-year revenue growth following pandemic-triggered record revenues in 2020. Alongside, they are accelerating their digital transformation initiatives for improved customer-centric offerings and cost savings with efficiency gains. In particular, investment banks are reimagining customer experience (CX) with client engagement models that are driven by digital assistants and powered by cognitive technologies. These 24X7 virtual assistants enable banks to offer self-service capabilities to clients and automate workflows to improve operational efficiency and reduce operational risks. This paper discusses how banks can explore emerging use cases for digital assistants and a high-level solution for implementing the same.

Industry context

Investment banks posted record revenues in 2020 with pandemic-triggered volatility and massive financial stimulus from central banks. This trend continued through 2021, and investment banks continued their growth journey, benefiting from the market volatility and increased client activity. According to Coalition Greenwich, the total investment banking revenue surged 10% year-on-year to $115.3 billion in H1 2021.[1]

Investment banks continue to be challenged by cost pressures, regulatory compliance, and increasing competition. In revving up their digital transformation pace, most investment banks are focusing on digital client engagement models, automation, platform modernization, cloud adoption, ecosystem play, and analytics. Investment banks are also embracing digital assistants powered by cognitive technologies to offer self-service capabilities to customers and employees, enrich the customer experience, improve operational efficiency, ensure regulatory compliance, and reduce costs.

What is a digital assistant?

A digital assistant is a 24X7 virtual assistant designed to aid users in finding answers to their queries and automate activities through cognitive technologies. Digital assistants support two types of conversations – first, a request-response conversation mode initiated by the user, and second, alerts or push notifications. A user-initiated conversational digital assistant simulates human-like conversations with the user and supports both voice and text-based conversations.

Crowded with several conversational artificial intelligence (AI) platforms, the global intelligent virtual assistant (IVA) market is anticipated to expand at a compounded annual growth rate (CAGR) of 28.5% from 2021 to 2028 and is expected to reach $51.9 billion by 2028, according to Grand View Research.[2]

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[1] S&P Global, Global investment banks post highest H1 revenue in decade – Coalition Greenwich, September 2021, Accessed November 2021, https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/global-investment-banks-post-highest-h1-revenue-in-decade-8211-coalition-greenwich-66632606

[2] Grand View Research, Intelligent Virtual Assistant Market Size Worth $51.90 Billion By 2028, March 2021, Accessed November 2021, https://www.grandviewresearch.com/press-release/global-intelligent-virtual-assistant-industry

Emerging use cases

The industry is now witnessing early adopters that are launching digital assistants across multiple use cases (see Figure 1) to improve workflow automation and offer self-service capabilities.

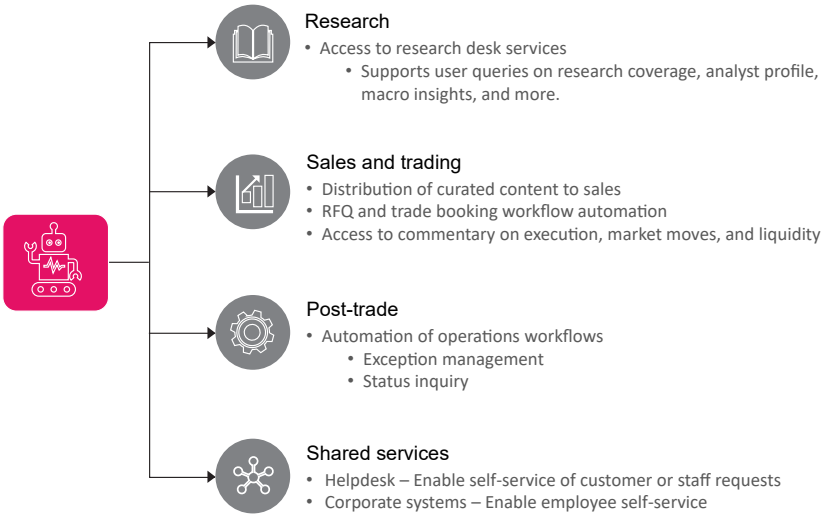

Figure 1: Emerging use cases in investment banks

Investment banks are adopting different approaches towards rolling out digital assistants. Depending on the use case and target users, firms are leveraging in-house platforms or secure third-party business-to-business (B2B) collaboration platforms. One such example of a B2B collaboration platform is Symphony Communication Services, which facilitates many-to-many conversations across firms and offers open-source application programming interface (API) frameworks for seamless integration with enterprise systems.

Research

Conversational digital assistants offer self-service capabilities to customers, enable access to research content round the clock, and provide information on research coverage, analyst profile, macro insights, and key policy events. Digital assistants also enable clients or internal staff to discover insights from extensive research reports. For example, J. P. Morgan's clients can access research through Amazon's cloud-based voice service[3], and Morgan Stanley's virtual assistant[4]helps junior analysts discover insights from thousands of research reports produced every year. A digital assistant can also publish curated reports to clients, who can aggregate research content from multiple brokers and create their own signals for internal consumption.

Sales and trading

The sales function collaborates closely with the research and trading desk to provide comprehensive client coverage, including servicing client requests for market updates, pricing and trade booking, and market intelligence. Tied with manual workflows, sales teams spend a significant amount of time on providing curated market commentary, research, and trading ideas to clients. Voice trading is still prominent in the industry, and sales teams work closely with traders to offer quotes to customers and assist with trade booking manually. Here, conversational digital assistants can automate workflows fully, from pricing inquiry to trade booking, for faster execution with no manual touchpoints. Also, digital assistants capture the audit trail with accurate timestamps for regulatory

[3] J.P. Morgan, J.P. Morgan research now available on Alexa, March 2018, Accessed November 2021, https://www.jpmorgan.com/news/jpmorgan-research-now-available-on-alexa

[4] American Banker, Morgan Stanley creates bot that does junior analysts' work — faster, February 2021, Accessed November 2021, https://www.americanbanker.com/news/morgan-stanley-creates-bot-that-does-junior-analysts-work-faster

compliance. For example, HSBC launched the Sympricot chatbot[5] to offer clients instant pricing for foreign exchange (FX) options. BNP Paribas recently expanded the scope of their digital trading assistant, ALiX[6], across the full FX product suite on the bank's FX trading platform, Cortex FX.

Post-trade

Post-trade operations are responsible for exception management and liaising with clients to resolve exceptions, including trade breaks and missing settlement instructions, on time. This will help avoid settlement fails, which are becoming increasingly imperative with respect to potential penalties that can be levied by regulators for settlement fails, as in the case of the Central Securities Depositories Regulation (CSDR).[7]

Built on secure messaging platforms like Symphony, conversational digital assistants leverage APIs to pull exceptions data from the bank's applications and provide relevant stakeholders a single view of exceptions in a chatroom for timely exception resolution. These assistants can handle client queries like trade status or trade breaks without manual intervention from operations.

Shared services

Shared services, including enterprise infrastructure and corporate systems, provide support across a bank's line of business. A highly efficient and satisfied workforce is crucial for global investment banks, and conversational digital assistants can help improve employee satisfaction by enabling self-service offerings. Banks can deploy conversational digital assistants in the IT helpdesk to address repetitive support requests and in HR and finance functions to provide instant answers to routine employee queries. For example, Credit Suisse deployed a chatbot to handle routine helpdesk requests.[8]

High-level functional architecture

Conversational digital assistants or chatbots can be invoked from multiple channels like portals, mobile apps, and voice assistants. Figure 2 illustrates a high-level functional architecture of a conversational digital assistant.

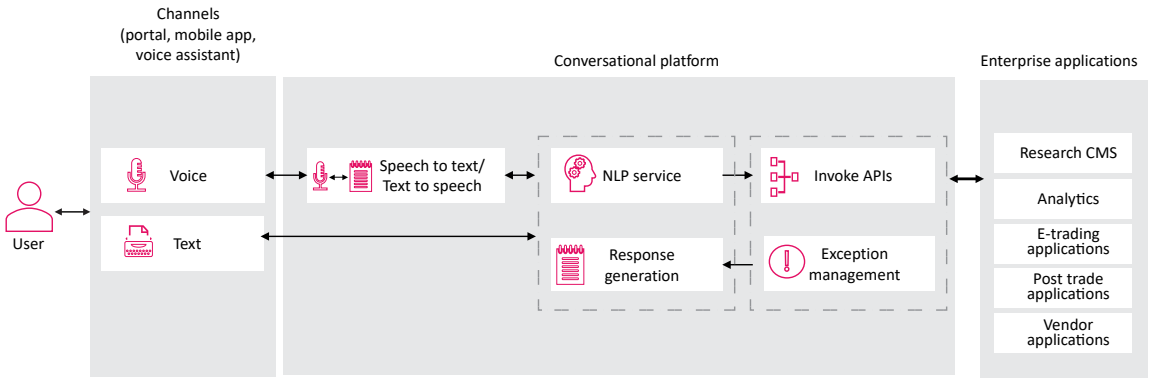

Figure 2: High-level functional architecture diagram of a conversational digital assistant

[5] Hubbis, HSBC launches Sympricot chatbot offering clients instant pricing for FX options, February 2021, Accessed December 2021, https://dev.hubbis.com/news/hsbc-launches-sympricot-chatbot-offering-clients-instant-pricing-for-fx-options

[6] BNP Paribas, BNP Paribas announces that ALiX, the FX industry's first digital trading assistant, expands its skills, March 2021, Accessed December 2021, https://www.bnpparibas.co.uk/en/2021/03/22/bnp-paribas-announces-that-alix-the-fx-industrys-first-digital-trading-assistant-expands its-skills/

[7] European Union, Official Journal of the European Union, 2017, Accessed December 2021, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017R0389&from=EN

[8] Credit Suisse, Amelia – Artificial Intelligence in Action at Credit Suisse, February 2018, Accessed December 2021, https://www.credit-suisse.com/about-us-news/en/articles/news-and-expertise/amelia-artificial-intelligence-in-action-at-credit suisse-201802.html

Natural language processing (NLP) is the key component of a conversational platform, as it understands the intent of the user's query or request, invokes the corresponding APIs to retrieve information, and returns the response in a structured format. A well-trained conversational agent with institutional knowledge and a feedback loop can improve the understanding of the nuances of user queries and reduce the number of requests that require manual intervention.

Looking ahead

With increasing focus on digital client engagement models and intelligent automation, early adopters of digital assistants have been able to modernize their customer and internal user journeys and achieve efficiency gains. For banks that are yet to embark on this digital assistant journey, it is high time to adopt this technology to achieve parity with peers. Banks can leverage partner ecosystems to bring the best conversational capabilities in-house and swiftly introduce new customer engagement channels.

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