



Invest Taipei Office | Issued 2018/8/27

Maestro Insight

Potential Artificial Intelligence Application in the Financial Industry

The concept of "Artificial Intelligence" (AI) was proposed by American scientist John McCarthy with the goal of making computers similar to humans' ability to learn, think and solve problems. This topic itself was quite innovative at the moment it was proposed but with technical limitations. Thanks to the advancement in computing, digital storage technology, and algorithms in recent years, AI has become realistic through big data analysis. In practical applications, artificial intelligence is the key to development in improving workflow, product development, and related services. Its application orientation and potential value are quite large. According to Gartner, an internationally renowned institution, the global AI output will reach 1.2 trillion US dollars in 2018, an increase of 70% compared to 2017. It is estimated that by 2022, the relevant output value will reach 3.9 trillion US dollars.

At the same time, global IT spending driven by digital transformation, the blockchain, machine learning, AI, and the Internet of Things reached \$3.7 trillion in 2018, of which IT capital expenditures were a major business opportunity. AI in the financial field can be found applied as the investment banking robots, mobile financial advisors and face recognition payment system at the bank; insurance target assessment in property insurance, and high-risk policyholder forecast in auto insurance globe wide. In addition, applications in other key financial-related areas

including precision marketing, financial supervision, risk management, and compliance are being actively developed. The Natural Language Processing (NLP) is critical to AI development in Mandarin application field. Smart customer service and voice recognition are also urgently needed in the near future.

The Potential Added Value (Development) of AI in the Financial Industry in Taipei (Taiwan)

Taiwan financial industry dominated by the banking industry has experienced the liberalization of interest rates since the 1990s and the establishment of new banks. It turned into a highly competitive Overbanking situation. The Financial Supervisory Commission R.O.C. announced that 2014 as the first year of financial technology and actively promoted the FinTech business, followed by The Financial Technology Office, the Financial Technology Advisory Committee and the Financial Technology Development Fund. The private sectors also cooperated with the establishment of the Taiwan financial technology companies. The publication of the financial technology white paper in 2016 fully demonstrated the determination of financial authorities to develop financial technology including AI.

The unique characteristics and general environment of Taiwan's financial industry show excessive saving behaviour. Banking oriented financial institutions possess large funds with nowhere to loan to generate a higher return on investment. This is where AI operated financial operators and financial transaction consultants come in aid the wealth management industry by guiding the bank's existing customer with big data analysis and guiding investment strategy recommendations according to the customer's risk attributes. With the high demand on the Asian Cup and the New Southbound Policy, the for adherence to laws and anti-money laundering have brought the international standards to a higher level. Further on in recent years, overseas domestic financial companies have been penalized, which made them pay more attention to the law compliance issues and increase the potential on importance and development of AI in Taiwan's financial field.

Taipei (Taiwan) Current Financial Investment Development on AI

The general financial industry's investment in AI from Taiwan is still mainly based on the banking industry. First of all, a number of banks are introducing wealth management robot services to their customers by introducing smart assistants that integrate AI and chatbot to execute close interactions with customers. such as the launch of "The e-BOT", smart robot and "e-Counter", digital platform from the Bank of Taiwan in May 2016; E.SUN Bank cooperated with IBM and LINE and launched the first AI chatbot in Taiwan's financial industry in April 2017, "E.SUN i-Pocket Financial Consultant"; DBS Bank (Taiwan) integrated with IBM and launched "DBS i-Service" on LINE APP in November 2017. On top of the integration with IBM Watson NLP recognition and bot learning technology, the upgrading of the conversational assistant application, expansion on the scope of financial services, and the extension of financial services to the complex corporate sector are implemented.

In terms of identification, Citibank (Taiwan) initiated the first "acoustic fingerprinting" identification system with their call centre, which uses that unique one of the kind voiceprint features of customers to replace the entering of passwords that significantly shorten the ID verification process time. CTBC Bank also upgraded their conventional ATM to the "Digital Vein ATM" to provide not only convenience when making withdrawals but also more secured. CTBC Bank also installed "Coin Deposit ATM" that separates coin values accordingly and is equipped with anti-counterfeiting mechanism. Also, in terms of loan applications, E.SUN Bank launched the "E-Z Loan" online automated interest rate assessing service by accessing and evaluating customer's credit status to issue a loan in just a few minutes with a short questionnaire. This online automated service had successfully reduced the cost of the bank in customer service from NT\$10,000 all the way down to NT\$1,500 per person while reducing the Non Performing Loan Ratios (NPL ratio).

In the securities industry, The CAPITAL Group released their finance management smart robot, "GOODi" in December 2016. It is the first brokerage company in Taiwan to launch smart software services where customers get instant verbal answers. GOODi will also take the initiative to learn the financial news, financial report, interest notices, and shareholder meetings and inform the customers following to their interests. GOODi also provides customers with the necessary investment solutions by analysing Q&A records, operation pattern and transaction records. In the insurance industry, Shin Kong Life (SKI) has partnered up with SAS to launch an anti-fraudulent claim project by collaborating machine's self-learning mechanism and human input to generate a predictive model in minimizing all potential missing fraudulent case histories from man-made error or misinterpretation of suspicious claims. Detection rate has gone up 15%, saving tens of millions each month and no increment of the appeal rate of claims.

Conclusion

Based on all mentioned above, Taiwan's financial industry's investment in AI has covered a wide range of areas including banking, securities, and insurance. The aforementioned case is only part of the development of AI in the financial circle of Taipei. It is expected that with the development of AI technology and application, it will bring new business and link new transnational investments to the development of the financial industry as the next wave of Taiwan financial innovation. Opportunities may be brought by the international cooperation of new financial institutions with the overseas development trend for Taiwan's financial institutions. With Taiwan as the trial ground, the innovation and profit model will be carried out to overseas and the investment results will be expanded.

Invest Taipei Office.

The Taipei City Government's Department of Economic Development established the Invest Taipei Office (ITO) to effectively assist domestic and overseas companies and entrepreneurs by providing knowledge and understanding of Taipei's business environment as well as of related policies and legislations. The ITO's focus is to assist companies with various requirements for setting up businesses in Taipei City by offering consultation, introduction, and resource consolidation services, as well as investment troubleshooting and business opportunity expansion guidance, all to promote Taipei's industrial and economic development.