HONG KONG MONETARY AUTHORITY
香 港 金 融 管 理 局

Our Ref: B1/15C
B9/67C

19 August 2024

The Chief Executive
All Authorized Institutions

Dear Sir / Madam,

Consumer Protection in respect of Use of Generative Artificial Intelligence

I am writing to provide authorized institutions with a set of guiding principles in respect of use of generative artificial intelligence ("GenAI") in customer-facing applications from consumer protection perspective.

In view of the development of big data analytics and artificial intelligence ("BDAI"), the Hong Kong Monetary Authority ("HKMA") issued a set of guiding principles in the circular "Consumer Protection in respect of Use of Big Data Analytics and Artificial Intelligence by Authorized Institutions" dated 5 November 2019 ("2019 BDAI Guiding Principles"), focusing on four major areas, namely governance and accountability, fairness, transparency and disclosure, and data privacy and protection (see **Annex 1** for a handy summary[1]). These guiding principles have demonstrated to be beneficial to banks and customers, and helped promote the healthy development of BDAI in the Hong Kong banking sector, as seen in the proliferation of use cases of BDAI revealed in a recent survey conducted by the HKMA (see **Annex 2** for a summary of the survey results). More importantly, the 2019 BDAI Guiding Principles have also helped enhance customer confidence in using banking services adopting BDAI.

In recent months, the HKMA notes an increasing interest of the banking sector in adopting GenAI in their operations. GenAI is a form of BDAI that enables generation of new content such as text, image, audio, video, code or other media,

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[1] For guidance on risk management of authorized institutions in respect of the use of artificial intelligence (including GenAI), please refer to the HKMA circular "High-level Principles on Artificial Intelligence" dated 1 November 2019, which will be updated from time to time in the light of market development and practical experience.

based on vast amounts of data. At this moment, adoption of GenAI in the banking sector is still at an early stage, with most of the current applications focusing on improving banks' operational efficiency, such as internal chatbots and coding. Nonetheless, the ability of GenAI in content-creation means that GenAI could be more extensively adopted by the banking sector in customer-facing activities. Potential applications include but are not limited to customer chatbots, customised product and service development and delivery, targeted sales and marketing, and robo-advisors in wealth management and insurance. The use of GenAI in customer-facing activities will have consumer protection implications.

GenAI, being a subfield of BDAI, basically shares a set of similar risk dimensions. As such, with respect to consumer protection in customer-facing applications, the HKMA expects all authorized institutions to apply and extend the 2019 BDAI Guiding Principles to the use of GenAI and continue to adopt a risk-based approach commensurate with the risks involved. Having said that, since GenAI uses complex models, potential risks such as lack of explainability and hallucination (i.e. generating outputs that seem realistic but are factually incorrect, incomplete, lack important information, or lack relevance to the context) could cause even more significant impact on customers. The HKMA has therefore set out the following additional principles under each of the four major areas aiming to ensure appropriate safeguards for consumer protection are in place when GenAI is adopted for customer-facing applications.

1. Governance and accountability

The board and senior management of authorized institutions should remain accountable for all the GenAI-driven decisions and processes, and have thoroughly considered the potential impact of GenAI applications on customers through an appropriate committee under the governance, oversight and accountability framework of authorized institutions. They should ensure, among others:

(a) the scope of customer-facing GenAI applications is clearly defined such that GenAI usage would not be used in unintended areas;

(b) proper policies and procedures are developed on the responsible use of GenAI in customer-facing applications and related control measures are put in place; and

(c) proper validation of the GenAI models are put in place, in particular, during the early stage of deploying customer-facing GenAI applications, authorized institutions should adopt the "human-in-the-loop" approach, i.e. having

human to retain control in the decision-making process to ensure the model-generated outputs are accurate and not misleading.

2. Fairness

Authorized institutions should ensure GenAI models produce objective, consistent, ethical and fair outcomes to customers, which include ensuring, among others:

(a) the model-generated outputs would not lead to unfair bias or disadvantage against any customers or groups of customers. Authorized institutions should give consideration to different approaches that may be deployed in the GenAI models, such as anonymising certain categories of data, deploying datasets that are comprehensive and fair representation of the population, making adjustments to remove bias during the validation and review process (e.g. by adopting "human-in-the-loop"), etc.; and

(b) during the early stage of deploying customer-facing GenAI applications, customers are provided with the option to opt out of using GenAI and request human intervention on GenAI-generated decision at their discretion as far as practicable. Where an "opt-out" option cannot be provided for some reasons, authorized institutions should provide channels for customers to request for review of the GenAI-generated decisions. With the continuous evolution of technology, other measures that can yield the same effect of "opt-out" option will also be acceptable.

3. Transparency and disclosure

Authorized institutions should provide an appropriate level of transparency to customers regarding their GenAI applications through proper, accurate and understandable disclosure. Accordingly, they should disclose the use of GenAI to customers, and, among others, communicate with customers on the use and purpose of adoption of the GenAI models as well as the limitations of such models, in order to enhance customers' understanding of the model-generated outputs.

4. Data privacy and protection

Authorized institutions should implement effective protection measures to safeguard customer data. In particular, if personal data are collected and processed by GenAI applications, authorized institutions should comply with the Personal Data (Privacy) Ordinance and pay due regard to relevant recommendations and good practices issued by the Office of the Privacy

Commissioner for Personal Data ("PCPD") related to GenAI, including, among others, the "Guidance on the Ethical Development and Use of Artificial Intelligence" published on 18 August 2021 and the "Artificial Intelligence: Model Personal Data Protection Framework" published on 11 June 2024.

Proactive use of BDAI and GenAI in enhancing consumer protection

BDAI, in particular GenAI, has the potential for product-feature optimisation and customer segmentation to the individual level, thereby allowing banks to be precise in designing and promoting specific products for specific customers in an efficient and customised manner, posing business potential and opportunities. Along similar logic, authorized institutions are encouraged to explore the use of BDAI, including GenAI, in enhancing consumer protection. Some examples may include identification of customers who are vulnerable and require more protection and education; identification of customers who may need more information or clarifications to better understand product features, risks, and terms and conditions in the disclosure; or issuance of fraud alerts to customers engaging in transactions with potentially higher risks.

Should you have any questions regarding this circular, please feel free to contact Ms Cherry Yip on 2597-0495 or Mr Michael Leung on 2878-1186.

Yours faithfully,

Alan Au
Executive Director (Banking Conduct)

c.c.   The Chairman, The Hong Kong Association of Banks
       The Chairman, The DTC Association
       Secretary for Financial Services and the Treasury (Attn: Mr Justin To)

Guiding Principles in the HKMA circular "Consumer Protection in respect of Use of Big Data Analytics and Artificial Intelligence by Authorized Institutions" dated 5 November 2019

1. Governance and accountability

The board and senior management of authorized institutions should remain accountable for all the BDAI-driven decisions and processes. Accordingly, they should ensure, among others:

(a) appropriate governance, oversight and accountability framework which is established and documented;

(b) appropriate level of explainability of the BDAI models including any algorithms (i.e. no black-box excuse), and that the models can be understood by the authorized institutions;

(c) adherence to the consumer protection principles set out in the Code of Banking Practice, Treat Customers Fairly Charter and other applicable regulatory requirements, as in the case of providing conventional banking products and services. BDAI applications should also be consistent with the corporate values and ethical standards of authorized institutions which should include, among others, upholding customer-centric culture and principles; and

(d) proper validation before launch of BDAI applications, and thereafter on-going reviews, to ensure the reliability, fairness, accuracy and relevance of the models, data used and the results.

2. Fairness

Authorized institutions should ensure that BDAI models produce objective, consistent, ethical and fair outcomes to customers, which include ensuring, among others:

(a) compliance with the applicable laws, including those relevant to discrimination;

(b) customer access to basic banking services are not denied unjustifiably which will be against the spirit of financial inclusion;

(c) customers' financial capabilities, situation and needs, including their level of digital literacy, are taken into account;

(d) the models used for the BDAI-driven decision are robust and have appropriately weighed all relevant variables; and

(e) the possibility of manual intervention to mitigate irresponsible lending decisions where necessary (e.g. in cases involving higher risks or impacts from the automated decision).

3. Transparency and disclosure

Authorized institutions should provide appropriate level of transparency to customers regarding their BDAI applications through proper, accurate and understandable disclosure. Accordingly, they should, among others:

(a) make clear to customers, prior to service provision, that the relevant service is powered by BDAI technology and of the associated risks;

(b) provide proper disclosure to customers so that customers could understand the approach of authorized institutions to using customer data;

(c) make available a mechanism for customers to enquire and request reviews on the decisions made by the BDAI applications, and ensure that any related complaint handling and redress mechanism for BDAI-based products and services are accessible and fair;

(d) provide explanations on what types of data are used, and what factors or how the models affect the BDAI-driven decisions, upon customers' request and where appropriate. For the avoidance of doubt, such explanations to customers are not required for systems used for monitoring and prevention of frauds or money laundering / terrorist financing activities;

(e) carry out appropriate consumer education to enhance consumers' understanding on BDAI technology in banking services; and

(f) ensure that relevant customer communications are clear and simple to understand.

4. Data privacy and protection

Authorized institutions should implement effective protection measures to safeguard customer data. Accordingly, they should, among others:

(a) if personal data are collected and processed by BDAI applications:

- ensure compliance with the Personal Data (Privacy) Ordinance ("PDPO") including the 6 Data Protection Principles, any relevant codes of practice issued or approved by the Privacy Commissioner for Personal Data ("PCPD") giving practical guidance on compliance with the PDPO, and any other applicable local and overseas statutory or regulatory requirements;

- pay regard to the relevant good practices issued by the PCPD related to BDAI and Fintech, including, among others, the "Ethical Accountability Framework" (the "Framework"), the "Data Stewardship Accountability, Data Impact Assessments and Oversight Models" in support of the Framework, and the "Information Leaflet on Fintech";

(b) consider embedding data protection in the design of a product or system from the outset (i.e. "privacy by design") and collecting and storing only the minimum amount of data for the minimum amount of time (i.e. "data minimisation"); and

(c) where request for consent to the collection and use of personal data in relation to a banking product or service powered by BDAI technology is required, ensure that such consent is as clear and understandable as possible in the interests of ensuring informed consent.

**Survey on Consumer Protection in respect of
the Use of Big Data Analytics and Artificial Intelligence**

In May 2024, the HKMA conducted a survey on the use of big data analytics and artificial intelligence ("BDAI") including generative artificial intelligence ("GenAI") by authorized institutions. A total of 28 authorized institutions primarily serving retail customers were surveyed and the following summarises key observations from the survey.
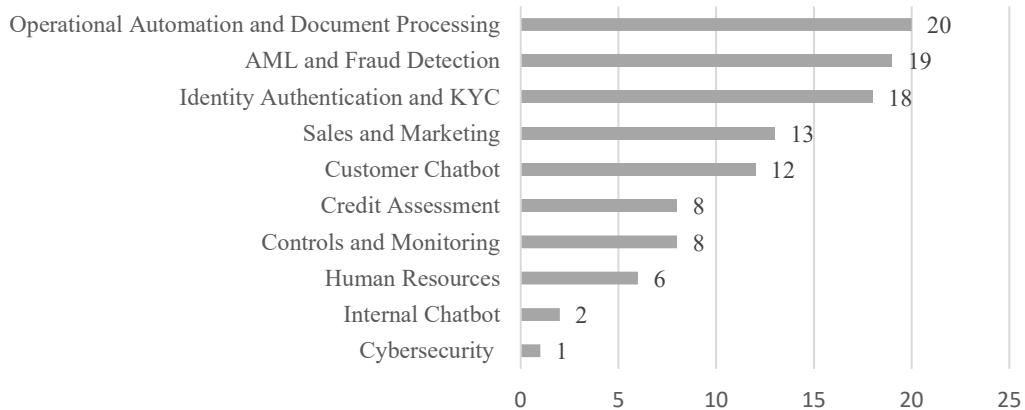
A. Use of BDAI

75% of surveyed authorized institutions reported adopting or planning to adopt BDAI in the provision of general banking products and services, as well as daily operations. Reported use cases spread across customer-facing activities (identity authentication, customer chatbots, credit assessment), middle-office functions (AML and fraud detection, controls and monitoring) and back-office functions (operational automation and document processing). A wide range of third-party service providers are engaged in the provision of BDAI applications.

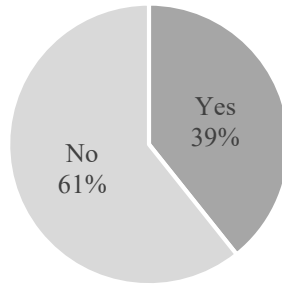**A1. Number of authorized institutions adopting or planning to adopt BDAI**
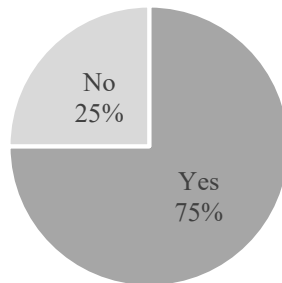
A2. BDAI use cases by categories

B. Use of GenAI

39% of surveyed authorized institutions reported adopting or planning to adopt GenAI in the provision of general banking products and services, as well as daily operations. The majority of the reported use cases were for internal business functions, such as summarisation and translation, coding and internal chatbots. The adoption of GenAI technology in customer-facing activities is still at an early stage, with reported uses more confined to drafting customer responses and assisting in preparing sales and marketing materials. Most of the GenAI applications adopted were from off-the-shelf solutions by third-party service providers.

B1. Number of authorized institutions adopting or planning to adopt GenAI

B2. GenAI use cases by categories