

Mr. Alp Eroglu
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23 October 2020

By email (consultation-02-2020@iosco.org)

FTAHK and LITE Lab@HKU Joint Response to IOSCO Consultation with our Public Comment on "The Use of Artificial Intelligence and Machine Learning By Market Intermediaries and Asset Managers"

Dear Mr. Eroglu

The FinTech Association of Hong Kong ("FTAHK"), in conjunction with LITE Lab@HKU, welcomes the consultation of the Board of the International Organisation of Securities Commission ("IOSCO") on the use of artificial intelligence ("AI") and machine learning ("ML") by market intermediaries and asset managers as set forth in its June 2020 Consultation Report (the "Consultation Report").

The FTAHK is a not-for-profit ecosystem builder that has over 1300 members representing 300+ firms and is the largest FinTech association in Hong Kong. Our wide-ranging membership comprises global and domestic FinTechs, financial institutions, technology service providers, consultancies, law firms, academia and students. LITE Lab@HKU is an interdisciplinary and experiential programme of the University of Hong Kong Faculty of Law in conjunction with the Department of Computer Science that fosters law, innovation, technology and entrepreneurship (LITE) and researches and publishes in areas such as AI governance.

This Public Comment has been prepared in consultation with FTAHK members representing a broad range of experience and backgrounds from fintech start-ups to established financial services firms, as well as stakeholders such as technology companies, consultancies and academia.

We strongly agree that the use of AI and ML by market intermediaries and asset management firms creates novel opportunities and risks, with the overall need to foster trust in AI and financial markets. We believe that such risks should be appropriately mitigated by **proportionate regulation** that continues to foster **responsible innovation** in a way that promotes market integrity, fairness and investor protection, financial stability, competition and innovation. In addition, new regulations should support financial inclusion while combating financial crime.

Overall, our Public Comment draws the IOSCO Board's attention to four important themes:

(1) Encourage use of AI/ML in Regtech

At a time when regulators worldwide are increasingly encouraging financial institutions to adopt “Regtech” solutions (including those using AI/ML) to combat financial crime and ensure regulatory compliance, we recommend that the Measures should specifically encourage favourable consideration towards regulated financial institutions responsibly using AI/ML in Regtech, and that this area is distinguished from uses of AI/ML in investment products and processes which impact consumer protection and market integrity and stability.

(2) Address unintended consequences that may discourage innovation

Certain Measures may create unintended consequences that discourage innovation from smaller financial and technology firms or new FinTech entrants in developed markets such as Hong Kong, as well as developing and emerging markets globally. Such measures may also perpetuate certain global financial, technology and data sector concentration to the detriment of local innovation and industry.

For example:

- (a) Measure 2 requires adequate testing and monitoring “on a continuous basis”. If real-time continuous monitoring is required by Measure 2, this could be very onerous, especially for smaller domestic financial and technology companies. We recommend that Measure 2 should be clarified if this is not the intention to define “continuous” more specifically.
- (b) Measure 6 requires appropriate measures relating to data that is of “sufficient quality” and “sufficiently broad”. Given the modern mantra that “data is the new oil”, competition authorities worldwide are increasingly concerned about the concentration of such data that is creating barriers to new entrants and innovation. We recommend that Measure 6 specifically encourage consideration of Open Banking, Open API and/or shared data utility approaches that enable smaller domestic financial and technology companies, especially in emerging markets, to innovate while satisfying Measure 6, and address the potential unintended consequence of data concentration in few global multinational corporations.
- (c) Measure 5 requires disclosure of information to customers and clients and regulators. We recommend two clarifications to assist regulators and market participants:
 - (i) *Clarify distinction between regulatory reporting and disclosure to consumers*

We recommend that Measure 5 explicitly distinguishes between disclosure to regulators as “regulatory reporting” and “customer and client disclosure”.

Regulators play a crucial supervisory role to ensure consumer protection and market integrity. Regulators are right to be concerned about AI/ML with historically limited datasets that limit their efficacy in the face of “black swan” market events (such as COVID-19) as well as of “flash crashes” due to potentially correlated algorithms across market participants. Accordingly, it is reasonable to expect regulatory reporting to be more regular¹ and comprehensive than disclosure to customers and clients.

¹ See e.g., Securities and Exchange Board of India, ‘Circular: Reporting for Artificial Intelligence (AI) and Machine Learning (ML) applications and systems offered and used by Mutual Funds’, 9 May 2019, <https://www.sebi.gov.in/legal/circulars/may->

We fully agree that under Measure 1 and Measure 3, senior managers at financial institutions should be able to understand the products they are marketing to consumers in order to enable them to effectively report these to regulators, both for consumer protection and market integrity purposes. Similarly, customers and clients should have sufficient information to make informed decisions regarding AI/ML products they are purchasing that are linked to their life savings and financial health.²

(ii) *Clarify distinction between AI explainability and AI interpretability*

We recommend that Measure 5 explicitly makes the distinction increasingly recognised in AI literature – namely, between AI explainability and AI interpretability.

AI explainability relates to information communicated to enable comprehension by a reasonably intelligent lay person of how a system works and the results it produces, such as: a customer or client to make an investment decision; a financial institution senior manager to make a risk management decision; a regulator to assess e.g., the market risks; or a judge to determine culpability and liability when loss has been suffered. The higher the stakes, the higher the need for AI explainability – for example, society expects to understand more about autonomous vehicles and judicial sentencing algorithms than from movie recommendation engines. AI explainability also allows for more transparency for different stakeholders to ensure algorithmic fairness and detect any bias due to e.g., limited datasets that may result in unintended discrimination against specific segments of society.

AI interpretability relates to the information communicated to enable comprehension of the statistical “cause and effect” of models, algorithm and architecture at a deeper level in the language of data scientists, AI engineers and other experts. Regulators are increasingly developing their own teams of data experts (and are in effect required to do so under Measure 1 and Measure 3) and so regulatory reporting on AI interpretability is appropriate, but not necessarily to customers or clients. Better understanding of AI interpretability will assist regulators to calibrate the documented explainability and accuracy trade-off in AI algorithms and models. Such confidential regulatory reporting of AI Interpretability also allows financial institutions and technology companies to have greater comfort regarding protecting their valuable intellectual property surrounding their AI solutions and to promote competition and innovation. In addition, such confidential regulatory reporting will also address concerns regarding “gaming” of RegTech solutions against money laundering and sanctions.

(3) Guidance on Proportionality Factors (especially for Customer and Client Disclosure)

We recommend that the concept of Proportionality includes a list of non-exclusive factors that will assist regulators (and in turn financial institutions and their senior managers) to make product design and marketing decisions that will help promote innovation aligned with appropriate consumer protection,

[2019/reporting-for-artificial-intelligence-ai-and-machine-learning-ml-applications-and-systems-offered-and-used-by-mutual-funds_42932.html](#). Last accessed 11 October 2020.

² Lawsuits against robo-advisers have already started, see, *Tyndaris v VWM* (England & Wales High Court (Commercial Division), Case No. CL-2018-000298)

especially in relation to Measure 5 on consumer and client disclosure. This non-exclusive list of proportionality factors should include:

- the expertise or sophistication of the client or customer (e.g. whether the client is a professional investor);
- the impact on the targeted customer or client segment (e.g., whether the AI/ML service is in relation to pension mutual funds investment or speculative/ hedge fund trading);
- the use of the AI/ML algorithm or model in relation to the investment product (e.g., whether it involves fully or partial automation of allocation of the customer's funds or is mainly used for regulatory compliance) and the extent to which the AI/ML algorithm or model lacks AI interpretability or AI explainability to the relevant regulator;
- whether the customer or client can opt-out from engaging the firm and the investment products that use AI/ML algorithms or models (e.g., mandatory or employee savings schemes);
- if the regulator has a competition mandate, the impact of such AI explainability requirements on the national agenda of promoting domestic technology and innovation (taking into account the valuable intellectual property developed).

There is no "one size fits all", and more detailed AI explanation may reasonably be required for retail customers who are marketed a fully automated robo-advisor, as opposed to marketing to sophisticated institutional hedge fund investors. This means that the level and extent of customer and client AI explainability could range on a continuum from disclosure in a financial institution's terms and conditions ("T&Cs") that AI/ML is being used, to information concerning the AI system functionality and information regarding how the AI may reach any specific decision.

It should be noted that there are some jurisdictions that promote a "due process" right in relation to individual automated decisions as a right to explanation or manual review. Measure 5 should clarify that this should be for the individual regulator and society to determine and emphasise that in any case no consumer should be discriminated against.

(4) Human-In-The-Loop approach to address AI fairness, accountability and transparency

There is increasing global recognition in relation to ensuring algorithmic fairness, accountability and transparency. As such, there should be a human-in-the-loop ("HITL") approach in the design, development, deployment and maintenance stages of AI/ML systems.

The Measure 1 senior manager requirement and Measure 3 skills, expertise and experience requirement (especially for Compliance and Risk Management functions) goes some way toward address the HITL approach but is still primarily a top-down risk control approach to AI/ML accountability.

We recommend that Measure 1 and Measure 3 also outline a more practical and horizontal AI governance lens to assist regulators and regulated financial institutions when implementing for the requisite human responsibilities, skills, expertise and experience across six identified HITL paradigms, namely (i) human as AI trainer; (ii) human as AI/user trainer; (iii) human as AI quality control and governance; (iv) human as AI

explainer or interpreter; (v) human as AI creator; and (vi) human as customer/user of AI products and services.³

Conclusion

FTAHK and LITE Lab@HKU thanks the IOSCO Board for inviting broad and representative participation in its Consultation Report, and hopes that the final guidance will help support responsible innovation in a way that avoids unintended consequences and promotes fair and efficient markets, financial stability, innovation and competition, while supporting financial inclusion and offering customers and clients the benefits of AI/ML innovation.

FTAHK and LITE Lab@HKU look forward to our continued involvement in shaping the future of AI and ML regulation in relation to the securities and futures markets.

If IOSCO has any further questions in relation to this Public Comment, please do not hesitate to contact FTAHK's Secretariat at generalmanager@ftahk.org and LITE Lab@HKU's Founding Executive Director Brian W Tang at bwtang@hku.hk.

Yours Sincerely

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³ Brian W Tang, 'The Chiron Imperative – A Framework of Six Human-in-the-Loop Paradigms to Create Wise and Just AI-Human Centaurs' in The LEGALTECH Book: The Legal Technology Handbook for Investors, Entrepreneurs and Fintech Visionaries, SA Bhatti, S Chisti, A Dato, D Indric (eds), Wiley, 2020, p38.