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Artificial Intelligence in the Securities Industry
FINRA Update 6-17-2020
Request for Comment

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As a FINRA arbitrator and mediator I appreciate the foresight FINRA exercised in “going paperless” many years ago. The benefits of this project are evident in the present-day health crisis. Similarly, I appreciate FINRA’s foresight in preparing for Artificial Intelligence in the financial sector. FINRA is a role model for self-regulation with is relevant to other industrial sectors as well. In this commentary I will first comment on the grand scheme of the project and then follow up with specific observations.

FINRA’s overall mission/vision statement is clear enough, it is “investor protection”. In this case, investor protection refers to protection from the unknowns of Artificial Intelligence. The reference survey does not define AI, however. For clarity, a suggestion is that AI is defined as (a) *human-like thinking composed of learning, problem solving and decision making* in that order. It also implies (b) *rational human-like acting* in doing work better and faster than humans themselves are now capable. If a case under consideration does not meet that definition, it is not AI! It is common and erroneous practice to designate plain analytics like simulation or a mathematical optimization as AI.

The goal of this study is assumed to seek ethics-justified rules that can be FINRA- enforced for which a philosophical grounding exists. AI’s philosophy dates back to Aristotle’s (344-322 BC); syllogisms that rule-based decisions are a good thing. Utilitarianism, John Stuart Mills’ (1806 – 1873) Greatest Happiness Principle is applicable to achieve customers satisfaction. Good outcomes for humans are often goals stated in the AI literature.

The FINRA family of associated persons includes broker-dealer firms, their employees, and clients. The paper however appears limited to represent the views of broker-dealer management only, leading to a potentially biased conclusion.

An open question is whether ethics in the financial industry, or any other industry for that matter, can be regulated in the first place? Can ethics be sufficiently well defined to even be regulatable, given that human values themselves differ greatly. A point to start pondering that questions is to consider defining an ethics standard for the Financial industry in the following:

1. conscience
2. Rights
3. Wisdom
4. Obligations
5. Limits and boundaries
6. Fairness
7. Full truth
8. Monopolies
9. Beneficence
10. Trust
11. Equality

The comments that follow relate to *the Communication* section of the reference document:

- The hoarding of data by financial firms can lead to, as intended, a data monopoly. This would be illegal, apart from being unethical, and has not been dealt with in the reference document. A popular phrase in the media is "data is the new oil".
- Speed trading may help with arbitrage, which is good, but it may be detrimental for those who do not have access to it. This relates to the ethics of inequality.
- Targeting customers who do not want to be targeted. Customers need to have an opt-out opportunity. Coming legislation will no doubt address that soon. (see GDPR and California's CCPA, neither being compatible with each other.
- Biometric behavioral analyses in Finance and elsewhere are often just bad science. Ethically, such application methods need to be proven before being applied, and not proven by statistical correlations masquerading as causation. This is suitable for rule-writing.
- What brokers-dealers do with their customers' data is mostly a private affair between customers and broker-dealer. But when these data are sold and aggregated, an ethical problem can arise. To start with, customer must be given an opt- out offer, or be compensated for sharing their data. The law is likely to catch up on this.
- Suggesting that broker/dealer salespersons are supposed to fully comprehend AI decisions resulting from Natural Language Processing (NLP), or from Machine Learning (ML), is not reasonable. Realistically, a major ethical problem in AI is that the technology cannot even explain itself. How then is a salesperson to make a decision that not even AI itself cannot explain?

The comments that follow are related to *investment process* section of the reference document.

- Recommendation systems are relatively new. Introduced by Amazon, a recommendation system says *customers who bought this book, also looked at or bought other books* like these…, all of which books Amazon coincidentally sells as well. Applied to the security industry the considerations are different. Given exceptionally large numbers AI controlled portfolios, selections may trend towards a common denominator and turn individual investors into automatons. The ethical issue is who controls the recommendations algorithm?

- Big Data's in the financial markets, that is the aggregation of many data sources to produce new data, is fashionable. Big Data sources comprise sources from text, videos, social media, sensors, transactions and much more. Big Data tries to predict human behavior, which is useful if accurate. The ethical issue is its governance before things go wrong. For FINRA regulation purposes, any Big Data conclusions must be provable prior to adoption.

The last comment relates to the *operations* section of the reference document.

Cost reduction for broker-dealers is generally good. Cost reductions increase productivity and, theoretically at least, justify higher compensation of workers. If AI can contribute to this, so much the better. In 2018 the US financial service- and insurance sectors of the economy employed 6.3 million reasonably well-compensated Americans. If AI becomes so good and ubiquitous that only 3.15 million souls are necessary, then the other 3.15 million have a problem. That is an ethics issue for the industry to consider sooner rather than later.

The concluding comments deal with the *now what?*

Thank you FINRA for starting the process. Now consider this:

- Limit the current inquiry to the issuance of ethics guidelines, rather than ethics regulations or standards. Guidelines are easier to write and do not require anything be done about it. Ethics is also not enforceable because the definition of it varies greatly across the planet. Ethics AI guidelines have been issued by GDPR, OECD, The White House and its equivalent the European Commission, the State of California, the United Nations' UNESCO, WTO and ITU, another UN-related entity. Once guidelines are written and published, the outcome may create two coalitions, namely that of the willing and the unwilling.

- Consider FINRA's closest cousin with respect to self-regulation, the International Organization for Standardization (ISO). It is a non-profit organization, membership managed and funded. Unlike FINRA, membership is voluntary. Its mission is to foster quality for products and services. Its members are a coalition of the willing who believe that quality enhances corporate reputation and promotes business across the world.

- Consider supporting, not managing, the formation of a financial market sector NGO modeled after ISO to promote standards for ethics, as defined in your eventually upcoming guidelines? That would be a coalition of the willing of the broker-dealer community but would be way beyond FINRA rule writing under SEC approvals. Here, voluntary member broker-dealers commit to provable AI outcomes and thereby create value for themselves and their customers and remain in compliance, not unlike an ISO 9000- and 14000 designations creating value for their member firms.

- Consider also supporting, or at least not opposing, the formation of an AI ethics advocate NGO similar to Medicine sans Frontier. That legal entity's purpose would be to influence the coalition of the unwilling into observing FINRA guidelines on AI ethics. In order to be itself *ethical*, this NGO should be grant- funded and independent from the industry interest groups and government.

On the assumption that AI technology advances slower than hyped but faster than it can be regulated, a general scheme like the one proposed in this commentary would advance ethics in admittedly fewer than all cases, but nevertheless start action on the ground soon. It would be a leading indicator for future legislation, and above all it would benefit many without hurting any.

I would be pleased to entertain questions and comments, and if the approach is of interest to the community, be involved in the process.

FRANK WOLF