Working Group on Standards for Responsible Digital Financial Meeting Minutes
Topic: Algorithm Bias
(*Tuesday, April 12, 2022*)

Meeting overview: In this meeting, we reviewed the content of the draft standards for algorithm bias and participants shared their ideas on what to add, delete, or refine.

Learn more: Visit the Working Group's webpage to download the latest draft of the standards for responsible digital financial finance, to find content from previous meetings and to see the dates of upcoming meetings, Contact ameliagreenberg@sptfnetwork.org with any questions.

Introduction
- Amelia Greenberg, SPTF's Deputy Director and head of the Responsible Digital Financial Services (DFS) Working Group, began the meeting with quick introductions and updates.
- We have scheduled the next 4 DFS meetings and have combined some topics that are similar. The next meetings will take place on May 3rd, May 17th, May 31st and June 14th.
- The meeting minutes, presentation and recording from the previous meeting are published on the DFS webpage along with the the updated section of the Standards for Responsible DFS reflecting the previous discussion. The updated section on agent management now includes specific practice and examples shared by organizations including GSMA and MSC. Additionally, there is a "Questions to address" section.
- In response to the poll question "How much knowledge do you have about algorithm bias?"
  - 7 responded "Some"
  - 5 responded "None"
  - 4 responded "A little"
  - 1 responded "I am an expert"
- We are hoping to have an in-person meeting of this working group in Paris during the Annual Meeting in September on the 28th. Tom Shaw commented that he strongly recommends reserving a full day for the meeting.

Context: Overview of Cerise + SPTF's work on standards
- Over the past decade, SPTF published and has periodically updated the Universal Standards for Social and Environmental Performance Management ("Universal Standards"), which is a comprehensive guide of best practices to help FSPs put clients and the environment at the center of all decisions. SPTF and CERISE, with input from other stakeholders, have also developed an infrastructure of assessment tools and implementation resources for FSPs.
- With the rise of digital financial services, many of SPTF's stakeholders – including financial service providers, networks, investors, and regulators -- have asked Cerise+SPTF to identify best practices in DFS.
- Creating such DFS standards would:
  - Clarify what it means to have good management practices in DFS.
  - Enhance transparency
  - Encourage good practices to grow
  - Propose concrete solutions to the risks we observe

- o Enable stakeholders to distinguish between providers with a desire to create value for clients versus those focused solely on profits.
  - o Facilitate partnerships between responsible providers.
- To develop the standards, SPTF conducted a literature review plus 40+ interviews with a broad cross-section of experts.
- SPTF reviewed the following principles/standards/guidelines that relate to responsible DFS while developing the draft DFS standards:
  - o G20 High-Level Principles for Digital Financial Inclusion
  - o IFC Guidelines for Responsible Investing in DFS
  - o BTCA Guidelines for Responsible Digital Payments
  - o GSMA Mobile Money Certification
  - o Smart Campaign Digital Credit Standards
  - o GOGLA Self-Assessment
- If you are interested in providing feedback, or if you know someone else who should, contact Amelia Greenberg (ameliagreenberg@sptf.info).
- The Universal Standards for SEPM apply to all FSPs including DFS. In the latest iteration of the Universal Standards, we did include some practices specific to the responsible provision of DFS. However, we had not yet identified a comprehensive set of responsible DFS practices. That is the work happening now, with the input of the working group. In the future, the goal is to have one fully integrated manual and one assessment tool. We do not know what this will look like but will be determined after we have identified all the management practices for the DFS standards.
- Reminder: the standards say the *what* to do (e.g., report data on algorithm function to the board), but not the *how* (e.g., hold a monthly in-person meeting).

Algorithm Bias: Ideas for management practices so far

- A thought-provoking quote to kick off our discussion is "All algorithms are unfair according to some definition of fairness" reminding us that there are some tradeoffs between quality and fairness when discussing algorithms.
- What is already in the Universal Standards for SEPM related to algorithm bias?
  - o 4.A.1: The provider makes loan decisions based on a client's repayment capability
  - o 4.A.1.4: If the loan approval analysis is done through an algorithm, the provider reviews how well the algorithm functions. Minimum frequency: annually
  - o 4.A.1.4.1: The provider reviews the effectiveness of the algorithm for predicting client repayment
  - o 4.A.1.4.2: The provider checks its algorithms for bias against Protected Categories and corrects as needed.

- Ideas for management practices so far:

  1. If outsourcing algorithm development, inform your development partner of target customers and discuss a strategy to avoid algorithmic discrimination.
  2. If outsourcing algorithm development, in the service agreement, do the following:
     A. Define parameters for algorithm
     B. Require that the partner will annually check for algorithm's accuracy
     C. Require the partner test for bias at least annually
     D. Either require the partner to share the process they undertook to design the algorithm OR require them to certify or demonstrate a lack of bias.
  3. If developing the algorithm in-house, credit officers and management take part in the development of algorithm design.
  4. If you have information technology (IT) specialists developing your algorithm, train them on your mission and vision and target customers so they understand the context in which the algorithm will be deployed.

5. Before you launch using an algorithm, use synthetic or real data to test who gets approved for what product, and for what amount.

6. When designing how you will test whether your algorithm is biased, do the following:

    A. Select customer segments that are relevant to you and plan to analyze them separately to see whether the algorithm treats them equally (e.g., men vs. women, rural vs. urban)

    B. Select the criteria you will use to understand whether the algorithm is biased.

7. Have at least one employee who is able to read any algorithm you use.

8. Test whether your data are biased.

9. Monitor / check your data [when – daily?] to determine whether there is no bias (done either in-house or by the algorithm provider).

10. Management reviews the algorithm function at least once per [X time period] to make sure it is comfortable with the balance between fairness and efficiency that the algorithm achieves.

11. Use information from customer complaints to inform your review of algorithm function.

12. Prepare reports, at minimum quarterly, on algorithm function. Analyze at minimum the following:

    A. Who is being approved, by customer segment, and compare who is actually being served with the market that you are wanting to serve.

    B. Whether the algorithm is accurate (e.g., are the algorithm's decisions on loan sizes for target customers the same that traditional repayment capacity analyses would make?)

13. Share reports on algorithm function with senior management, credit department, the risk management team, and the board of directors; discuss results and identify potential bias.

14. If you find that bias exists, determine if it is coherent with your social goals and strategy.

15. In cases of a systemic shock (e.g., a pandemic), discontinue the algorithm and review it.

16. At least some members of the management team represent the population whose data are being scored by the algorithm. Their cultural knowledge can identify factors in the data that might bias or discriminate.

17. Do not use algorithms if you do not have the capacity to make sure they are not biased.

- Additional ideas after an interview with ORCAA
  - In order to understand if the algorithm is functioning well, do these steps:
    - Identify the stakeholders involved in the use of this algorithm
      - NB: In financial inclusion, these would be at minimum the fintech that created the algorithm, the FSP, and its customers. Interview each major segment of customer (e.g., women/men), as identified by the FSP.
    - Speak with representatives from each of the stakeholder groups to identify any concerns they have about the use of the algorithm
    - Document what you've learned in a way that makes it clear which stakeholder group had which concerns.
    - Qualify risks in terms of which would be high or low priority to mitigate, and then decide which you will address and which you will not
    - Design and implement an action plan to mitigate the risks you are going to address
    - Develop and implement a monitoring plan to make sure the algorithm continues to function without the biases you eliminated even as time goes on
  - If you find the algorithm is not functioning, either update the algorithm or redefine how the FSP uses the information it gets from the algorithm.
- Additional idea from CFI
  - Have a mechanism to solicit customer feedback and address concerns about algorithm function

Expert Reflections:

- **Sonja Kelly, WWB:**
  - Algorithms and machine learning can be a huge force for inclusion. Algorithm fairness represents the positive side of the coin.
  - No algorithm will be 100% fair.
  - [WWB did a study](#) and found that GPS location might not be the biggest predictor for credit worthiness because women spend more time at home doing unpaid work than men and therefore may not be physically at their businesses as often.
  - How a company or jurisdiction defines fairness will affect the methods by which it pursues fairness, with varying levels of success. Agreeing on a definition of fairness could be added to the standards.
  - WWB is developing a scorecard of 5 common definitions of fairness
  - Comment from Alex Rizzi: The discussion on fairness could be integrated within defining the mission section of the standards. The mission says who you are trying to reach. The algorithm decides who gets access to a financial service, and in what amount. So, algorithm fairness or function is tied to whether the FSP achieves its mission.
  - The emphasis on management practices is key. When we look at the makeup of data scientists and coders, they are sitting in Silicon Valley. Having an audit or check on bias is essential. Compatibility in other markets is also a concern.
  - There is difference between accuracy and fairness for example in the case of the Apple credit card or internet access.
  - How frequently the algorithm is checked depends on how frequently the algorithm is updated. If it an algorithm that is continuously learning, then it should be more frequently checked.
- **Jacob Appel, ORCAA:**
  - ORCAA is a company that does algorithmic audits.
  - The framework that ORCAA uses to assess fair algorithms is by asking the question "for whom could this algorithm fail?" This puts the focus on the stakeholder. This includes both the FSP and the borrower. This invites you to think through who the stakeholders are and invites you to speak to various representatives both inside the FSP and outside.
  - There may be some concerns around predictive analysis, tracking, etc. This argues for a contextual approach to address the concerns of the actual people touched by the algorithm. It is specific for the algorithm being used.
  - Once the concerns are mapped, it is up to the FSP to address them.
  - Comment from Amelia: Even if you are not able to understand the technical background of the algorithm itself, you can have nontechnical conversations with the stakeholders involved.
- **Alex Rizzi, CFI:**
  - CFI did a qualitative study in Rwanda to chat with 30 individual borrowers about algorithm bias. They were asked if loan officers were fairer than digital lenders and almost all of the respondents said that digital lenders were fairer, and they did not show bias in comparison to loan officers.
  - Less comfort and approval towards data inputs such as utility payments, airtime top ups, text messages
  - While consumers give a blanket approval towards digital lenders, the more transparency is around the types of data being collected the more uncomfortable individuals feel.
  - What obligation do FSPs have to communicate and be transparent?
  - Comment from Amelia: Regulation does not keep up with the pace of innovation

Discussion:

- o **Arpita Pal Agrawal**
    - If the algorithm starts with data that are biased, then their learning can perpetuate that bias.
    - It would be helpful to have one definition of bias or fairness because bias to one person might be strategy to another.
- o **Alejandro Jakubowicz**
    - Can bias be defined quantitatively? Based on different designs of algorithms? Response from Amelia: For each algorithm and for each use case you must ask "for whom could this fail" for each case.
    - Response from Jacob: From a technical standpoint it is not sufficient to just look at one of the variables in the algorithm. For example, when it comes to race, there are other variables that will indicate race even if that variable is removed.

Next Steps:

- Save the date for the next Working Group meeting.
- Invite your colleagues to join
- Read the draft DFS standards document.
- Send written comments on the document to Amelia Greenberg at ameliagreenberg@sptfnetwork.org.