Hackathon Title

Strengthening the Adoption of Standards in Islamic Finance with Artificial Intelligence

1. **Problem Statement and objective**

   AI-powered solutions tailored to make the selected AAOIFI Financial Accounting Standards (FAS) easier to implement and adopt, more comprehensive, user-friendly and globally compatible, leading to higher compliance rates and better financial decision-making in the Islamic Finance sector.

2. **Deliverables**

   - Working AI powered solution/prototype
   - Detailed documentation including technical architecture and specs as well as clear presentation of the solution (a high resolution video of max 10 minutes providing a clear walkthrough of all scenarios: briefly on the first three categories, and thoroughly on the fourth category).

3. **Pre-requisites**

   Workshop from Ubility on the AI platform to be used
   Workshop from IsDBI on the 5 selected AAOIFI FAS (4, 7, 10, 28 and 32)
   The 5 selected AAOIFI FAS and their corresponding AAOIFI SS (Shariah Standards)
   N.B. The two workshops are recorded, and the recording were communicated to all teams.

4. **Evaluation Criteria**

   - Accuracy
   - Reusability and Scalability
   - Technical Specifications
   - Innovation
   - Presentation and Communication

5. **Milestones**

   Online phase (8-10 May)
   Shortlisting to 10 finalists plus feedback (11-14 May)
   Onsite phase (15-17 May)
   Final scoring and winning selections (18-19 May

Challenges Set

The set includes the following categories:

1. **Use case scenarios**: This includes the scenario of the use case at hand, the related question, as well as the provided correct answer, so that the AI solution can bridge the gap between the AI generated answers and the provided correct answer.
2. **Reverse transactions**: This includes some "out-of-context" financial entries from which the relevant FAS are to be induced. The provided correct answer is given so that the AI solution can fix any gap and discrepancy.
3. **Standard enhancement**: In this category, teams need to demonstrate how AI can be used to review, suggest, and validate updates or clarifications to a selected AAOIFI standard. The team need to design a system using a **multi-agent architecture** with **clear segregation of duties**, including (but not limited to):
   o A(n) agent(s) responsible for **reviewing the standard** and extracting key elements.
   o A(n) agent(s) tasked with **proposing AI-driven modifications or enhancements** to the Standards.
   o One or more agents for **validating and approving** the proposed changes based on compliance logic, contextual understanding, and alignment with Shariah principles.

   Expected Outcome:
   A functional prototype or conceptual model that illustrates how AI agents interact to enhance the standard effectively, ensuring both **compliance** and **practical applicability** within the Islamic finance framework.
4. **Teams own category**: Based on the skills developed for the previous categories, teams are to develop a working prototype (as proof of concept) of an AI-powered tool that can serve one or more of the following objectives (or any other similar objective they would like to enhance):
   - Financial Product Design
   - Audit
   - Fraud and ML detection
   - Cross-Border (Multi-Jurisdictional) Compliance Advisor

1. Use case scenarios category

<u>Ijarah MBT Accounting (in Lessee's books)</u>

On 1 January 2019 Alpha Islamic bank (Lessee) entered into an Ijarah MBT arrangement with Super Generators for Ijarah of a heavy-duty generator purchase by Super Generators at a price of USD 450,000.

Super Generators has also paid USD 12,000 as import tax and US 30,000 for freight charges.

The Ijarah Term is 02 years and expected residual value at the end USD 5,000. At the end of Ijarah Term, it is highly likely that the option of transfer of ownership of the underlying asset to the lessee shall be exercised through purchase at a price of USD 3,000.

Alpha Islamic Bank will amortize the 'right of use' on yearly basis and it is required to pay yearly rental of USD 300,000.

==**Provide the following accounting entry in the books of Alpha Islamic Bank:**==

Initial Recognition at the time of commencement of Ijarah (using Underlying Asset Cost Method).

==**Correct Solution:**==

Initial Recognition at the Time of Commencement of Ijarah (1 January 2019):

The **cost of the underlying asset** is the basis for recognizing the "Right of Use" (ROU) asset.

Determine the Right-of-Use Asset (ROU)

- **Prime cost** (Purchase + Import tax + Freight):
  = 450,000 + 12,000 + 30,000 = **492,000**

- **Less: Terminal value** (i.e., **Purchase price** of USD 3,000 to acquire ownership)
  = 492,000 − 3,000 = **489,000** (ROU)

Add Deferred Ijarah Cost:

- Total rentals over 2 years = 300,000 × 2 = **600,000**

- Less: Present value of ROU = 489,000

- **Deferred Ijarah Cost** = 600,000 − 489,000 = **111,000**

Journal Entry:

Dr. Right of Use Asset (ROU)   USD 489,000

Dr. Deferred Ijarah Cost)   USD 111,000

    Cr. Ijarah Liability   USD 600,000

Amortizable Amount Calculation

Description	USD
Cost of ROU	489,000
Less: Terminal value difference (Residual 5,000 – Purchase 3,000) **2,000**	
Amortizable Amount	**487,000**

We deduct this **2,000** since the Lessee is expected to **gain ownership**, and this value will remain in the books after the lease ends.

2. Reverse Transaction Category

Reverse transaction #1:

Context: GreenTech exits in Year 3, and Al Baraka Bank buys out its stake.

Adjustments:

Buyout Price: **$1,750,000**

Bank Ownership: **100%**

Accounting Treatment:

Derecognition of GreenTech's equity

Recognition of acquisition expense

Journal Entry for Buyout:

Dr. GreenTech Equity $1,750,000

  Cr. Cash $1,750,000

Challenge:

Can you identify the AAOIFI FAS applicable to these entries? If more than one is possible, include weighted probability and reason

Correct Answer: Should list FAS 4 as highest weight, might include FAS 20 as second highest weight then FAS 32 as third highest weight.

Reverse transaction #2:

Context: The client cancels the change order, reverting to the original contract terms.

Adjustments:

Revised Contract Value: Back to $5,000,000

Timeline Restored: 2 years

Accounting Treatment:

Adjustment of revenue and cost projections

Reversal of additional cost accruals

Journal Entry for Cost Reversal:

Dr. Accounts Payable $1,000,000

　Cr. Work-in-Progress $1,000,000

This restores the original contract cost.

Challenge:

Can you identify the AAOIFI FAS applicable to these entries? If more than one is possible, include weighted probability and reason

Correct Answer: Should list FAS 10 as highest weight, and should **not** include FAS 8, FAS 19 or FAS 23, if more than one standard is found possible.

3. Standards Enhancement

- FAS 4
- FAS 10
- FAS 32

The challenge related to this category is to demonstrate how AI can be used to review, suggest, and validate updates or clarifications to a selected AAOIFI standard. The team need to design a system using a **multi-agent architecture** with **clear segregation of duties**, including (but not limited to):

- A(n) agent(s) responsible for **reviewing the standard** and extracting key elements.
- A(n) agent(s) tasked with **proposing AI-driven modifications or enhancements** to the Standards.
- One or more agents for **validating and approving** the proposed changes based on compliance logic, contextual understanding, and alignment with Shariah principles.

Expected Outcome:

A functional prototype or conceptual model that illustrates how AI agents interact to enhance the standard effectively, ensuring both **compliance** and **practical applicability** within the Islamic finance framework.

It is up to you to be creative in how to guarantee maximum accuracy and relevance from AI updates, while displaying the reasoning and sources of each amendment proposed.

4. Teams Own Category

You need to come up with a new category of challenges, leveraging on the skills you developed for the previous categories, to develop a working prototype (as a proof of concept) of an AI-powered tool that can serve one or more of the following objectives (or any other similar objective they would like to enhance):

- Financial Product Design
- Audit
- Fraud and ML detection
- Cross-Border (Multi-Jurisdictional) Compliance Advisor